PHASE II ENVIRONMENTAL SITE ASSESSMENT AND BASELINE GROUNDWATER QUALITY REPORT

General Steel Drum Facility
4500 South Boulevard
Charlotte, North Carolina, 28209

October 20, 2010

Prepared By:

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PROJECT NO. 0010736.00 PHASE 002

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October 20, 2010

Mr. Christian Stavig
Container Management Services, LLC
8435 NE Killingsworth
Portland, Oregon, 97220

REGARDING: RSV PROJECT NO. 0010736.00 PHASE 002
PHASE II ENVIRONMENTAL SITE ASSESSMENT AND BASELINE GROUNDWATER QUALITY EVALUATION REPORT: General Steel Drum Facility
4500 South Boulevard, Charlotte, North Carolina

Dear Mr. Stavig:

RSV Engineering, Inc. (RSV) is pleased to provide the Phase II Environmental Site Assessment (ESA) and baseline groundwater quality evaluation report for the above referenced property. This assessment was performed as per our contract dated September 7, 2010 and associated Change Order (No. 1) dated October 1, 2010.

We appreciate the opportunity to provide environmental services to Container Management Services, LLC. If you have any questions or concerns regarding this report, or if we can assist you in any other matter, please contact the undersigned at (503) 694-6960.

Very truly yours,

Guy H. Tanz, R. G. (OR), L.G. (WA)
Principal Geologist
RSV Engineering, Inc.

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4500 South Boulevard
Charlotte, North Carolina, 282091

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Prepared For

CONTAINER MANAGEMENT SERVICES, LLC
8435 NE KILLINGSWORTH
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1. SUMMARY OF FINDINGS

In October 2010, RSV Engineering, Inc. (RSV) conducted Phase II Environmental Site Assessment (ESA) and baseline groundwater evaluation activities at the approximate 5.73-acre General Steel Drum property located at 4500 South Boulevard, Charlotte, North Carolina (Figure 1). A summary of findings relating to the Phase II ESA and baseline groundwater evaluation activities are presented below.

1. On October 6 and 7, 2010, nine push probe borings were installed at the site to evaluate soil and groundwater quality. In particular, soil quality samples were collected in vicinity of a previously-removed diesel fuel underground storage tank (UST) and in the area of an on-site compressor room. In addition, shallow groundwater quality samples were collected at selected locations across the site to assess baseline conditions while a deeper-zone water sample was collected from the combined contribution of two site production wells prior to use within the facility process.
2. Soils encountered in push probe borings were composed entirely of silt and/or clay soil at SB-1, SB-2, SB-3, TW-1, TW-2, TW-3, and TW-4 to the maximum depth of investigation at 35 feet below ground surface (bgs). Silty soils were also encountered at TW-5 and TW-6 but at shallower depths of between five to 16 feet bgs that were underlain by what appeared to be severely weathered bedrock to the maximum depth of investigation at these locations of 25 feet bgs. Groundwater was encountered in TW-2 through TW-6 at depths ranging between 17 to 24 feet bgs; while groundwater was not encountered in shallow soil borings SB-1, SB-2, and SB-3, or temporary well point boring TW-1 thought to be caused by pumping from the nearby process water well.
3. Field screening of boring soil did not identify the presence of petroleum or volatile contamination that could be identified by such methods.
4. Soil and groundwater results were screened against established State of North Carolina standards. More specifically, soil analytical testing results were screened to standards established within Title 15A *Environment and Natural Resources of the North Carolina Administrative Code* (NCAC) Subchapter 2L and applicable Department of the Environment and Natural Resource (DENR) guideline documents; groundwater analytical testing results were compared to Title 15A of the NCAC Subchapter 2L Section .200 – *Classifications and Groundwater Quality Standards.* For the purpose of site screening evaluations, groundwater was considered Class GA (Best Usage).

5. Analytical testing of soil quality samples collected in proximity to the previously removed diesel fuel tank did not detect gasoline, diesel, or oil-range total petroleum hydrocarbons (TPH) above laboratory method reporting limits (MRLs). Laboratory MRLs were below established reference levels for petroleum products analyzed. Based on the preceding, it does not appear further investigations in vicinity of the removed diesel tank or compressor room are warranted

6. Analytical testing of five shallow temporary well point baseline groundwater samples detected various volatile organic compounds (VOCs) above laboratory method detection limits (MDLs) at various locations. More specifically, concentrations of acetone, chloroform, chloromethane, chlorobenzene, tetrachloroethene (perc or PCE), and methylene chloride were detected. Of those six compounds, only two, namely chloroform and PCE, exceeded their established reference levels. Chloroform can be associated with the addition of chlorinated compounds to drinking water (for disinfecting purposes) and may be sourced from underground water lines or sewer lines, and as such, is not thought to be of concern for the site. The presence of PCE above reference level is of concern, however, the source is not known.

7. Analytical testing of the water sample collected from the combined effluent from the production wells at the site detected six VOCs including chlorobenzene, 1,4-dichlorobenzene, 1,2-dichloropropane, 1,2-dichloroethane (1,2-DCA or ethylene dichloride [EDC]), cis-1,2-dichloroethene (DCE), and trichloroethene (TCE). It is not possible to determine if these compounds are in one or both production wells, nor is it possible to determine their true concentration since the water sample was collected from the combined effluent down-stream of well pumps and pressure systems. In addition, it is not known what hydraulic influence these production wells exert on regional groundwater flow. Although the sources of groundwater impact detected are not known, the concentrations detected at the location sampled are below established reference levels.

2. INTRODUCTION

Container Management Services, LLC (CMS) retained RSV Engineering, Inc. (RSV) to conduct Phase II Environmental Site Assessment (ESA) and baseline groundwater evaluation activities at the approximate 5.73-acre General Steel Drum property located at 4500 South Boulevard, Charlotte, North Carolina (Figure 1). The Phase II ESA and baseline groundwater investigation activities were conducted to assess soil and groundwater quality in selected areas of the subject property.

3. BACKGROUND

3.1 Location and Description

The site is located at 4500 South Boulevard in Charlotte, North Carolina (herein the Site) that is currently operated by General Steel Drum for the purpose of steel drum manufacture. The Site is at an elevation of approximately 730 feet mean sea level (msl) (Figure 1) and zoned for industrial use. Four buildings are located on the property (Figure 2) including:

- Building 1 - an approximate 61,000 square foot warehouse built in 1958, currently used for steel drum production,
- Building 2 - a concrete block building that is approximately 2500 square feet, built in 1959, and currently used as a machine maintenance shop,
- Building 3 - an approximately 3000 square foot office building added in approximately 1983, and
- Building 4 – a concrete block paint storage structure located southwest of the main facility (Building 1). In addition, a covered hazardous waste storage area (fenced in canopy) is located southwest of Building 4.

3.2 Geology and Hydrogeology

3.2.1 Geology

According to the U.S. Department of Agriculture's Soil Conservation Service, the native soils in the vicinity of the Subject Property are classified as Cecil Sandy Clay Loam, with moderate infiltration rates that are well drained. The North Carolina Geological Survey's Geologic Map of North Carolina (1998) indicates that bedrock in the vicinity of the subject property is generally composed of Paleozoic aged mafic intrusive and metamorphosed mafic intrusive rocks while the United States Geological Survey (USGS) describes surficial materials in the area as having been formed by the partial chemical dissolution and physical disintegration

of bedrock that includes fine to coarse-grained poorly sorted rocks[1]. Near-surface soils encountered during site investigations were principally fine-grained silts and/or clays to the maximum depth of investigation at 35 feet bgs; however, some coarse-grained soils (gravels and sands) were encountered at several locations (see Section 6.1 for details).

3.2.2 Hydrogeology

The Site is situated on an area that is locally elevated surrounded by several unnamed tributaries, the closest being a tributary to Little Hope Creek located approximately 800 feet north of the Site. Based on local topography and Site's proximity to surface waters, unconfined local shallow groundwater would likely flow to the north towards the nearby unnamed tributary stream; however, pumping from two site production wells may significantly effect groundwater flow, the extent of which is not known. Uppermost groundwater was encountered in temporary well point push probe borings during the site investigations at depths between 17 and 24 feet bgs (Section 7.1).

3.3 Phase I ESA

In September 2010 RSV prepared a Phase I ESA[2] for the subject property. The Phase I ESA identified Recognized Environmental Conditions (RECs), as defined by the American Society for Testing and Materials (ASTM) Practice E1527-05. The RECs identified are summarized as follows:

On-site REC #1: Staining of the asphalt near the southwest corner of Building 1 was observed near a large compressor. Mr. Lynn indicated that a housing containing an oil-water separator had cracked in this area, which resulted in the release of oil to the ground surface.

Recommendation: A baseline soil assessment should be conducted in proximity to the compressor to assess soil quality.

Historic REC #1: A diesel fuel underground storage tank was located at the southwest corner of Building 1 for several months in approximately 1985/1986. The tank was subsequently removed and purported to be in good condition. However, no documentation related to the tank, its removal, or surrounding soil quality were provided by General Steel Drum.

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[1] U.S. Geological Survey (2004). *Materials in the Conterminous United States*. 2004

[2] RSV Engineering, Inc. (2010). *Phase I Environmental Site Assessment Report, General Steel Drum Facility, 4500 South Boulevard, Charlotte, North Carolina, 28209*. September 24, 2010.

Recommendation: A baseline soil assessment should be conducted in proximity to the former tank to assess soil quality.

Non-REC #1: Volatile organic compounds (VOCs) (principally toluene and methyl-ethyl ketone) are used in the current site process and the historic site uses are not well documented. In addition, at sites with soil and groundwater contamination, it is common for groundwater cleanup to cost orders of magnitude greater than soil cleanup.

Recommendation: It would be prudent for the Client to consider conducting a baseline groundwater investigation at the site.

Based on the preceding, CMS retained RSV to conduct a Phase II ESA with respect to the above-referenced On-Site and Historic RECs as well as conduct a baseline groundwater evaluation for the above-referenced site the results of which are the subject of the report herein.

4. FIELD ACTIVITIES

Phase II ESA and baseline groundwater investigative field activities were conducted on October 6 and 7, 2010. A truck-mounted push probe boring rig was used for the collection of subsurface soil and groundwater samples. McCall Brothers, Inc. of Charlotte, North Carolina, a driller licensed to conduct such activities, was the contract driller for this project. All push probe borings were installed and abandoned in accordance with the North Carolina Division of Water Quality Rules (NCAC 15A 2C.0100 *Well Construction Standards for Water Supply and Certain Other Wells*).

Soil and baseline groundwater samples were collected consistent with North Carolina Department of Environment and Natural Resource (DENR) guidelines[3,4,5,6] and in general accordance with RSV Standard Operating Procedures (SOPs) that provide the framework from which the field activities for this project were completed. All applicable RSV SOPs are included in Appendix A and field activities are briefly summarized below.

[3] Department of Environment and Natural Resources (2008a). *Guidelines for Sampling*. December 1, 2008.

[4] Department of Environment and Natural Resources (2008b). *Guidelines for Assessment and Corrective Action for UST Releases*. December 1, 2008.

[5] Department of Environment and Natural Resources (2008c). *Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases*. December 1, 2008.

[6] Department of Environment and Natural Resources (2007). *UST Section Guidelines for the Investigation and Remediation of Contamination from Non-UST Petroleum Releases.* July 1, 2007.

4.1 Investigative Soil and Groundwater Locations and Rationale

In total, nine investigative borings (TW-1 through TW-6 and SB-1, SB-2, and SB-3) were installed at the site for the purpose of assessing soil and baseline groundwater quality. The boring locations and rationale are briefly described in the following section.

4.1.1 Former Diesel Fuel UST and Compressor Areas

Three push probe borings (SB-1, SB-2, and SB-3) were placed in vicinity to the previously-removed diesel fuel tank and existing compressor room located in proximity to southwestern exterior of the main facility structure (Building 1) to evaluate shallow soil quality. More specifically, SB-1 and SB-2 were placed in vicinity of oil-stained asphalt adjacent to the compressor room while SB-3 was placed in proximity to the previously-removed diesel tank location.

4.1.2 Baseline Groundwater Investigation Locations and Rationale

Screening-level groundwater samples were collected from five of six push probe borings (namely TW-2 through TW-6) for the purpose of assessing baseline groundwater conditions across the site. Although attempts were made to collect a water sample from TW-1, groundwater was not encountered to a depth of 35 feet bgs that was thought to be the result of dewatering caused from long-term pumping at the nearby eastern facility production well. Of the temporary well points where groundwater was encountered and sampled, various locations served a dual purpose in that they were also focused in areas of interest as follows:

Push Probe Number	**Purpose**
TW-2	Baseline groundwater quality; near interior parts lining booths and loading dock
TW-3	Baseline groundwater quality; near former diesel fuel UST and compressor room
TW-4	Baseline groundwater quality; near hazardous waste storage area and paint/oil storage areas
TW-5	Baseline groundwater quality; near maintenance shop
TW-6	Baseline groundwater quality; near spray booth and exterior paint booths

In addition to the preceding, efforts were made to collect water samples from each of the two production wells at the Site. However, based on the configuration of the production well system, there was no access for sampling individual well-heads, and as such, one water sample was collected from the most up-stream access point where waters from these wells are combined prior to use in the General Steel Drum process. Although a log for either of the site production wells was not available at the facility, or from the North Carolina Department of Environment and Natural Resources (DENR) Division of Water, the production wells located west and east of Building 1 were suggested by General Steel Drum personnel to be on the order of 525 and 130 feet deep respectively (General Steel Drum maintenance to Ms. Paula Richardson, personal communication) (Figure 3).

4.2 Investigative Methods

A truck-mounted push probe drilling rig was used to collect subsurface soil and ground water samples from selected areas at the Site described in detail below. McCall Brothers Inc., of Charlotte, North Carolina, was the licensed driller for this project.

4.2.1 Soil Sampling

A Macro Core sampler was utilized for the collection of soil samples that was advanced through subsurface soils at approximate 5-foot intervals. Upon removal from the ground, the acetate sleeve was removed, and cored soil exposed. A soil sample was then collected into a laboratory-provided sample jar with a pair of new nitrile gloves. Appropriate state preservation methods were utilized consistent with the requested laboratory analysis (Section 5.0).

4.2.2 Groundwater Sampling

Screening level groundwater samples were collected from TW-2, TW-3, TW-4, TW-5, and TW-6 (Figure 3) from the uppermost groundwater beneath the site utilizing a 1-inch diameter temporary well point that was advanced to between five to ten feet below the water table. Upon reaching the desired sampling depth, approximately 1 liter of water was purged prior to sampling. Groundwater samples were then collected into laboratory-provided 40-mililiter (ml) sampling volatile organic analysis (VOA) vials.

The configuration of individual production well-heads precluded groundwater sample collection on an individual basis. As such, one water sample was collected from an access point where waters from these wells are combined prior to use in the General Steel Drum process. Production well sampling was conducted as consistent as possible with applicable state guidance (NC DENR 2008b) and RSV SOPs (Appendix A).

4.3 Soil Field Screening

Field screening methods were employed in each of the push probe borings at selected intervals to assess for contaminants of interest that could be identified by such methods. Field screening methods included visual, odor, and vapor headspace. Field screening did not identify the presence of petroleum or volatile contamination that could be identified by such methods.

4.4 Push Probe Abandonment

Upon completion, and removal of drilling equipment form the borehole, each boring was abandoned in accordance with North Carolina Division of Water Quality Rules (NCAC 15A 2C.0100 *Well Construction Standards for Water Supply and Certain Other Wells*) by filling with bentonite chips to land surface. Areas of asphalt pavement were restored to match using asphalt patch.

4.5 Decontamination Procedures

All push probe drilling equipment was decontaminated prior to, and between, each probed location to prevent cross-contamination.

4.6 Investigative Derived Waste

Investigative-Derived Waste (IDW) was managed consistent with North Carolina DENR guidance (DENR 2008b). Since evidence of soil contamination was not observed in any of the drill cuttings, soil wastes were placed at each respective boring location or in the closest landscape area.

Since evidence of contamination was not observed in soil cuttings or field screening indicators on boring purge or equipment decontamination water (sheen), and water quality was thought to be representative of uppermost shallow groundwater, all decontamination water was placed on vegetated land surface in proximity to each respective boring.

5. ANALYTICAL TESTING

The soil samples were shipped with chain-of-custody documentation in a chilled coolers to Pace Analytical Laboratory, in Charlotte North Carolina, for analytical testing on an expedited five-day turnaround basis.

Selected soil samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) by U.S. Environmental Protection Agency (EPA) 8015M and EPA 5035 preparation, for diesel-range organics (DRO) by EPA Method 8015M with an EPA 3545 and 3550 preparation, and oil-range hydrocarbons by an EPA Method 9071 modified.

Selected groundwater samples were analyzed for VOCs by EPA Method 8260B.

The laboratory reports and chain-of-custody documentation for the soil and groundwater analytical testing are in Appendices C and D respectively. Summaries of soil and groundwater sample analytical testing results are presented on Tables 1 and 2.

6. INVESTIGATIVE RESULTS

6.1 Subsurface Conditions

Soils encountered in push probe borings, beneath asphalt-paved surfaces where applicable, were composed entirely of silt soil at B-1, B-2, B-3, TW-1, TW-2, and TW-3, to the maximum depth of investigation at 35 feet below ground surface (bgs) (TW-1), while TW-4, the most-western location, consisted entirely of clay soil to a depth of 25 feet bgs. Silty soils were also encountered at TW-5 and TW-6 but at shallower depths of between five to 16 feet bgs that were underlain by what appeared to be severely weathered bedrock to the maximum depth of investigation at these locations of 25 feet bgs. Groundwater was encountered in TW-2 through TW-6 at depths ranging between 17 to 24 feet bgs; while groundwater was not encountered in shallow soil borings SB-1, SB-2, and SB-3, or temporary well point boring TW-1. The absence of water in TW-1 is thought to have been caused by pumping from a nearby process water well.

6.2 Screening Reference Levels

6.2.1 Soil

Soil analytical testing results was conducted in accordance with Title 15A *Environment and Natural Resources of the North Carolina Administrative Code* (NCAC) Subchapter 2L and applicable DENR guideline documents *(DENR 2007 and 2008c)*. More specifically, soil analysis in vicinity of the former diesel fuel tank was compared to a “site check” screening-reference level of 10 milligrams per kilogram (mg/kg) (DENR 2008c). Soil analysis in vicinity of the compressor room was compared to cleanup requirements for non-UST contaminated soil for low boiling point hydrocarbons (gasoline), medium to high boiling point hydrocarbons (diesel fuel), and oils and greases of 10 mg/kg, 40 mg/kg, and 250 mg/kg respectively (DENR 2007). According to DENR, the non-UST reference levels are currently being updated to a 10 mg/kg threshold for all hydrocarbon ranges (Ms. Linda Smith DENR UST Section to Mr. Guy Tanz RSV, October 7, 2010 telephone communication).

6.2.2 Groundwater

Groundwater analytical testing results were compared to Title 15A Environment and Natural Resources of the NCAC Subchapter 2L Section .200 – *Classifications and Groundwater Quality Standards.* For the purpose of site screening evaluation, site groundwater was considered Class GA (Best Usage).

6.3 Soil Analytical Testing Results

The results of Phase II site investigations are discussed by area in the following sections. Tables summarizing laboratory analytical results are on Table 1 and investigative locations are depicted on Figure 3.

6.3.1 Former Diesel Fuel Tank Area Soil Testing Results

Analytical testing of soil samples collected from push probe boring B-3 installed in vicinity of the former tank pit did not detect total petroleum hydrocarbons (TPH) as gasoline-range organics (GRO), diesel-range organics (DRO), or residual range (oil) organics (RRO) (Table 1). In addition, evidence of petroleum hydrocarbons was not identified by field screening methods in nearby temporary well point boring TW-3. Accordingly, it does not appear that further Phase II investigation of soil in proximity to the former diesel fuel tank area is warranted.

6.3.2 Compressor Area Soil Testing Results

Analytical testing of soil samples collected from two push probe borings (B-1 and B-2) installed in vicinity of the compressor room did not detect total petroleum hydrocarbons (TPH) as gasoline-range organics (GRO), diesel-range organics (DRO), or residual range (oil) organics (RRO) (Table 1). Accordingly, it does not appear that further Phase II investigation of soil in proximity to the compressor room is warranted.

6.4 Groundwater Analytical Testing Results

The results of baseline groundwater and production well sampling are discussed below. Tables summarizing laboratory analytical results are on Table 2 and investigative locations are depicted on Figure 3.

6.4.1 Baseline Temporary Well Point Groundwater Testing Results

Analytical testing of five shallow baseline groundwater samples detected various volatile organic compounds (VOCs) above laboratory method detection limits (MDLs) at different locations (Table 2). More specifically, concentrations of acetone, chloroform, chloromethane, chlorobenzene, tetrachloroethene (perc or PCE), and methylene chloride were detected. Acetone and methylene chloride

are commonly used in analytical laboratories and their presence in the trip blank suggest these compounds are not of concern for the site. Of the six compounds detected, only two, chloroform and PCE at concentrations of 0.82 (estimated) and 1.7 ug/l, exceed their established reference levels of 0.7 ug/l for Class GA groundwater. Chloroform can be associated with the addition of chlorinated compounds to drinking water (for disinfecting purposes) and may be sourced from underground water lines or sewer lines, and as such, is not thought to be of concern for the site. PCE is a chlorinated solvent that is sometimes used by industrial facilities as a degreasing compound and is commonly used in dry cleaning activities. The presence of PCE above reference level is of concern. Although the location of TW-106 where the PCE exceedence was detected is in proximity to facility process spray and paint booths, its source is not known.

6.4.2 Production Well Groundwater Testing Results

Groundwater analysis of the sample from the combined effluent from the production wells at the site detected six VOCs including chlorobenzene, 1,4-dichlorobenzene, 1,2-dichloropropane, 1,2-dichloroethane (1,2-DCA or ethylene dichloride [EDC]), cis-1,2-dichloroethene (DCE), and trichloroethene (TCE). It is not possible to determine if these compounds are in one or both production wells, nor is it possible to determine their true concentration since the water sample was collected down-stream of well pumps and pressure systems. It is also not known what kind of hydraulic influence these production wells exert on regional groundwater flow. Lastly, the latter two compounds detected, namely cis-1,2-DCE and TCE, are typical daughter products of PCE; however, it is not possible to determine if they are related to the PCE detected in TW-106.

The concentrations of all VOCs detected in the combined production water well effluent at the location sampled are below their established reference levels for Class GA groundwater.

7. LIMITATIONS

The scope of Phase II investigation herein was prepared and implemented using the degree of care and skill ordinarily exercised by, and consistent with, the standards competent environmental science professionals would apply in evaluation of a similar site in vicinity of the subject property. In performing such a study, it is understood that a balance must be struck between reasonable inquiry into the Site conditions and cost of an exhaustive evaluation. No environmental site assessment can wholly eliminate uncertainty regarding potential environmental conditions in connection with a property since the exploration and/or testing conducted only determine quality of surface and/or subsurface conditions at those points sampled, and as such, are not representative of the property as a whole.

Certain information utilized by RSV Engineering, Inc. in this report/assessment has been obtained, reviewed, and evaluated from various sources believed to be reliable, including property owners, operators, state and federal agencies, or other knowledgeable persons. Although RSV Engineering, Inc's conclusions, opinions, and recommendations are based in part on such information, RSV Engineering, Inc.'s services did not include the verification of its accuracy or authenticity. Should such information prove to be inaccurate or unreliable, RSV Engineering, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

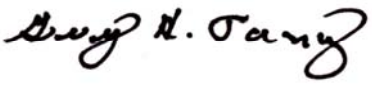
Without limitation, RSV Engineering does not provide guarantee or certification that the subject site is free of contamination, nor where detected, is representative of the property as a whole. In addition, we are not responsible for any changes in environmental standards, practices, or regulations subsequent to performance of these services. The document herein is a work of opinion and therefore we do not offer any warranty regarding advice, conclusions, or recommendations. In addition, advice, opinions, and recommendations should not be used as a substitute to that of legal counsel. (11/30/07)

8. SIGNATURES

We appreciate the opportunity to be of service to Container Management Services, LLC

Sincerely,

RSV Engineering Inc.



Guy H. Tanz, R.G. (OR) L.G. (WA)
Principal Geologist
RSV Engineering, Inc.

9. GLOSSARY OF ABBREVIATIONS

ASTM	American Society for Testing and Materials
bgs	below ground surface
COC	contaminant of concern
DCA	dichloroethane
DCE	dichloroethene
DENR	North Carolina Department of Environment and Natural Resources
EDR	Environmental Data Resources
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
HVOC	halogenated volatile organic compound
mg/kg	milligrams per kilogram
MCL	maximum contaminant limit
MRL	method reporting limit
MSL	mean sea level
NCAC	North Carolina Administrative Code
PCE	tetrachloroethene
PAH	polynuclear aromatic hydrocarbon
REC	Recognized Environmental Condition
RSV	RSV Engineering, Inc.
TCA	trichloroethane
TCE	trichloroethene
USGS	United States Geological Survey
UST	underground storage tank
VOC	volatile organic compounds

Tables

TABLE 1 - Summary of Soil Analytical Testing - Total Petroleum Hydrocarbons

Sample Description	Sample Number[1]	Sample Date	Sample Depth (feet bgs)	Laboratory Analytical Testing Results (mg/kg)					
				EPA Method					
				5035+8015M		3545/3550+8015M		9071B Modified	
				Low Boiling Point (gasolines)	(flags)	Moderate to High Boiling Point (diesel fuels)	(flags)	Heavy Fuels (oils)	(flags)
Reference Levels:		UST Reference Levels[1] -->		10.		10.		10.	
		Non-UST Reference Levels[2,3] -->		10.		40.		240.	
Compressor room	SB-201	7-Oct-10	4 - 5	6.7 U		6.8 U		96.3 U	
Compressor room	SB-202	7-Oct-10	4 - 5	7.4 U		6.1 U		84.6 U	
Former diesel tank area	SB-203	7-Oct-10	7 - 8	7. U		6.5 U		-	

Note:
EPA = U.S. Environmental Protection Agency
mg/kg = miligrams per kilogram
U = not detected above laboratory reporting limit indicated.
UST = underground storage tank

1 = Reference Level based on Department of Environment and Natural Resources *Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases*, December 1, 2008.
2 = Reference Level based on Department of Environment and Natural Resources *UST Section Guidelines for the Investigation and Remediation of Contamination from Non-UST Petroleum Releases*, July 1, 2007.
3 = Diesel and oil standards are currently in review for being lowered to 10 mg/kg
(Ms. Linda Smith, DENR to Mr. Guy Tanz, RSV, 10/07/10 telephone communication)

Bold = detected concentration exceeds reference Level

TABLE 2

Summary of Groundwater Sampling Analytical Testing - Volatile Organic Compounds by Laboratory Method Detection Limit

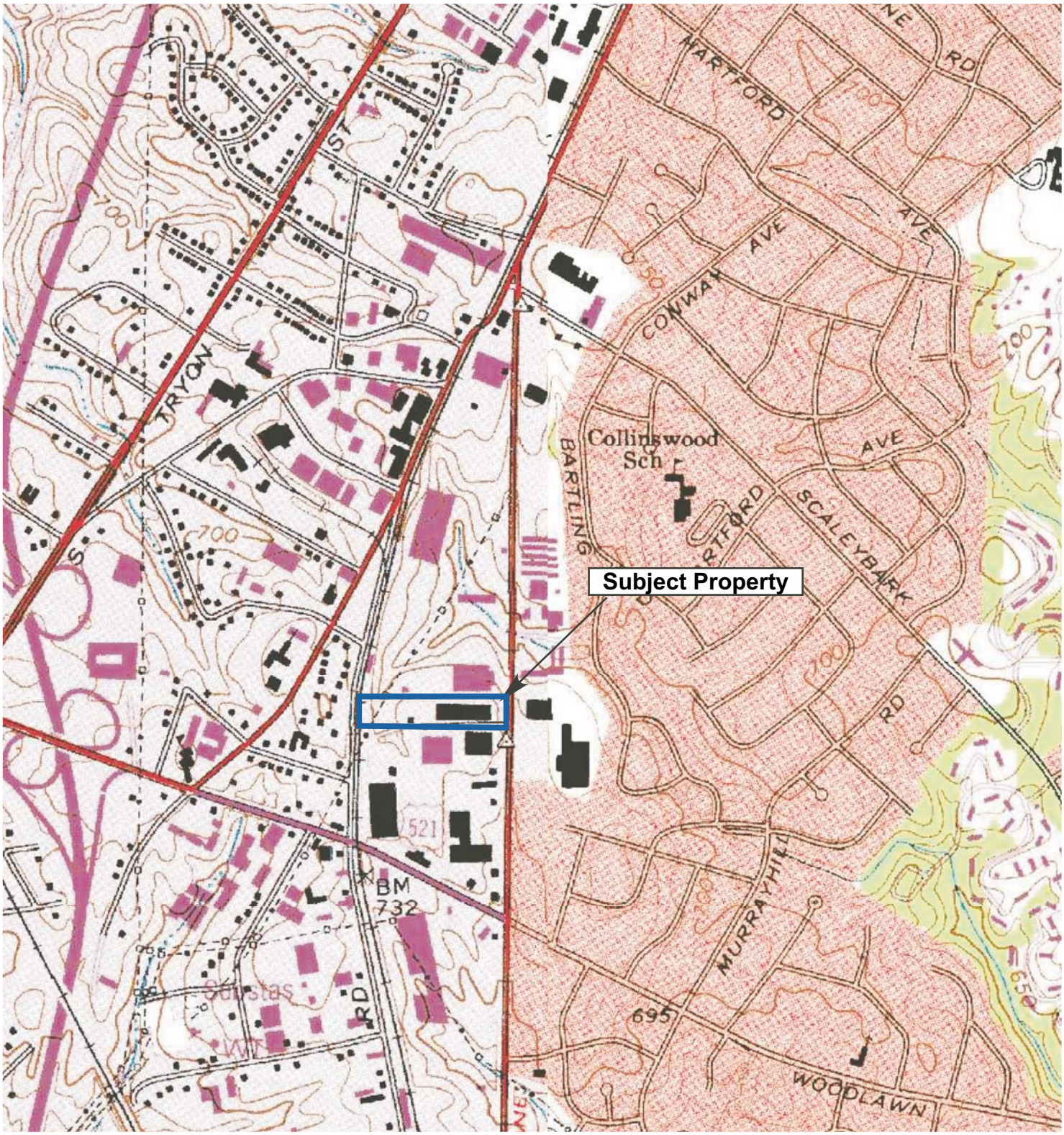
Location	Sample Number	Date	Analytical Results in ug/l VOCs by EPA Method 8260b																				
			Acetone	Chloroform	Chloromethane	Chlorobenzene	1,4-Dichlorobenzene	1,2-Dichloropropane	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	MEK	1,1,1-TCA	1,2-DCA (EDC)	1,1-DCA	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	TCE	PCE	Methylene Chloride	Other VOCs
Reference Levels[1]:	Class GA Standard -->		6,000.	0.7	3.	50.	6.	0.6	1.	600.	600.	500.	6.	4,000.	200.	0.4	6.	0.03	100.	70.	3.	0.7	5.	varies
Loading dock area	TW-102	7-Oct-10	2.2 U	0.14 U	0.11 U	0.23 U	0.33 U	0.27 U	0.25 U	0.26 U	0.3 U	0.66 U	0.24 U	0.96 U	0.48 U	0.12 U	0.32 U	0.62 U	0.49 U	0.19 U	0.47 U	0.46 U	0.97 U	U
Former diesel tank area	TW-103	7-Oct-10	2.9 J	**0.82** J	0.11 U	0.23 U	0.33 U	0.27 U	0.25 U	0.26 U	0.3 U	0.66 U	0.24 U	0.96 U	0.48 U	0.12 U	0.32 U	0.62 U	0.49 U	0.19 U	0.47 U	0.46 U	0.97 U	U
Haz-waste storage area	TW-104	6-Oct-10	3.4 J	0.14 U	0.16 J	0.23 U	0.33 U	0.27 U	0.25 U	0.26 U	0.3 U	0.66 U	0.24 U	0.96 U	0.48 U	0.12 U	0.32 U	0.62 U	0.49 U	0.19 U	0.47 U	0.46 U	0.97 U	U
Maintenance area	TW-105	7-Oct-10	2.4 J	0.14 U	0.27 J	0.3 J	0.33 U	0.27 U	0.25 U	0.26 U	0.3 U	0.66 U	0.24 U	0.96 U	0.48 U	0.12 U	0.32 U	0.62 U	0.49 U	0.19 U	0.47 U	0.46 U	0.97 U	U
Spray/paint booth areas	TW-106	7-Oct-10	2.8 J	0.14 U	0.11 U	0.23 U	0.33 U	0.27 U	0.25 U	0.26 U	0.3 U	0.66 U	0.24 U	0.96 U	0.48 U	0.12 U	0.32 U	0.62 U	0.49 U	0.19 U	0.47 U	**1.7**	2.2	U
Production Well	PWW-001	7-Oct-10	2.2 U	0.14 U	0.11 U	0.75 J	0.6 J	0.44 J	0.25 U	0.26 U	0.3 U	0.66 U	0.24 U	0.96 U	0.48 U	0.17 J	0.32 U	0.62 U	0.49 U	0.47 J	0.8 J	0.46 U	0.97 U	U
Trip blank	-	7-Oct-10	5. J	0.14 U	0.11 U	0.23 U	0.33 U	0.27 U	0.25 U	0.26 U	0.3 U	0.66 U	0.24 U	0.96 U	0.48 U	0.12 U	0.32 U	0.62 U	0.49 U	0.19 U	0.47 U	0.46 U	0.99 J	U

Note: DCA = dichloroethane
DCE = dichloroethene
EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-DCA)
EPA = U.S. Environmental Protection Agency
J = estimated concentration above MDL and below MRL
MDL = method detection limit
MRL = method reporting limit
MEK = methyl ethyl ketone (2-butanone)
PCE = tetrachloroethene
TCA = 1,1,1-trichloroethane
TCE = trichloroethene
U = not detected above laboratory reporting limit indicated
ug/l = micrograms per liter
1 = Reference Level based on (15A NCAC 02L .200 - *Classifications and Groundwater Quality Standards for Class GA Groundwater Usage*)

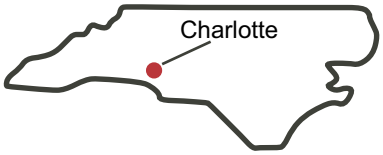
Bold = detected concentration exceeds Class GA groundwater usage reference Level

= concentration detected

Figures



LEGEND



N

0 500 1000 2000

Approximate Scale: 1"=1000'

Base Map: USGS 7.5-Minute Charlotte East (1998) and Charlotte West (1993) Quadrangle Maps

Figure 1
Site Location

Phase II ESA and Baseline Groundwater Investigation
4500 South Boulevard
Charlotte, North Carolina

Project No. 0010736.00 October 2010

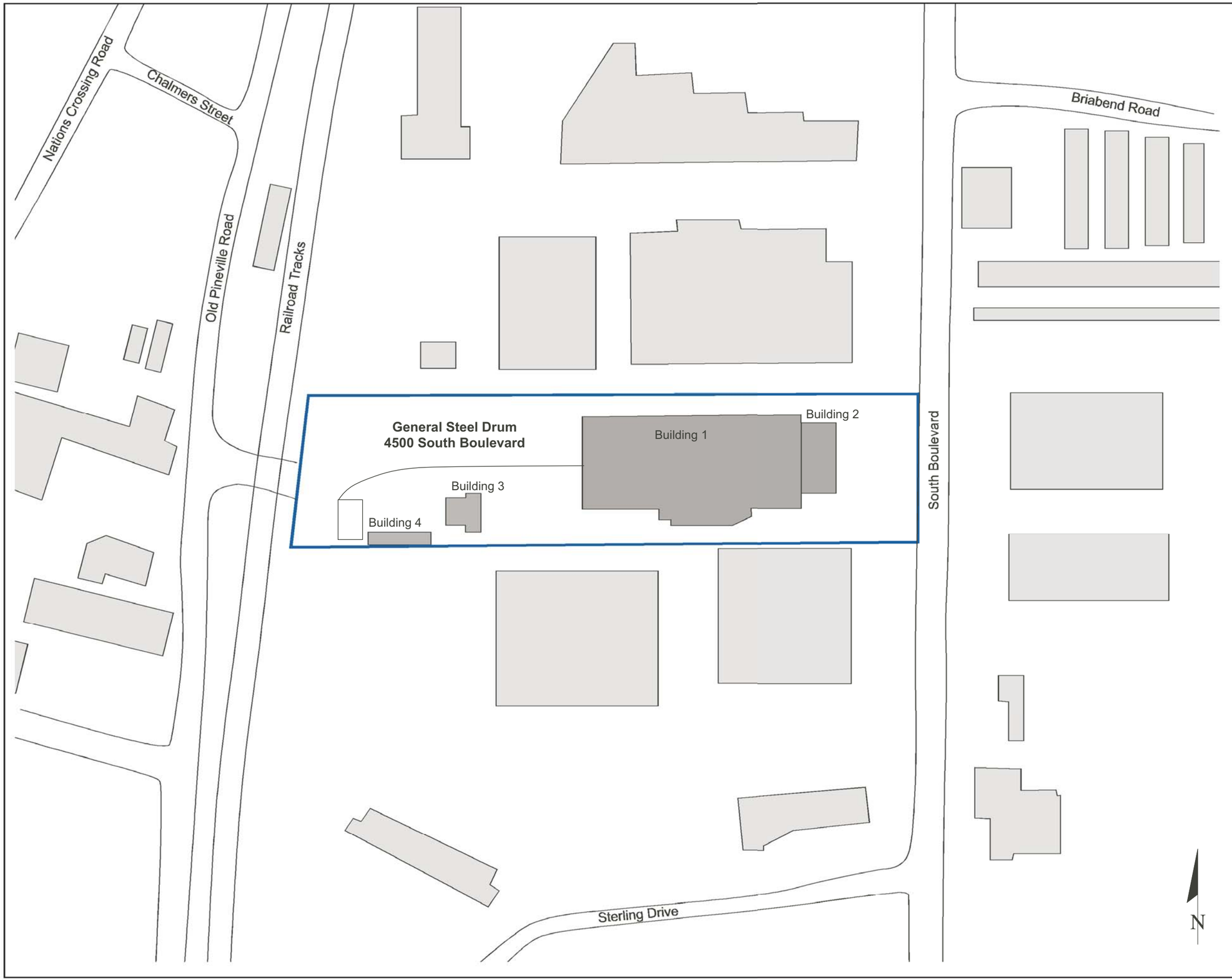


FIGURE 2
Site Map

Phase II ESA and Baseline Groundwater Investigation
4500 South Boulevard
Charlotte, North Carolina 28209

RSV Project No. 00100736.00
October 2010

RSV ENGINEERING, INC.
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0 75 150 300
Approximate Scale: 1"=150'

Base Maps:
Google Earth September 2010

LEGEND

- Subject Property
- Subject Property Structure
- Adjacent Property Structure

FIGURE 3
Facility Map

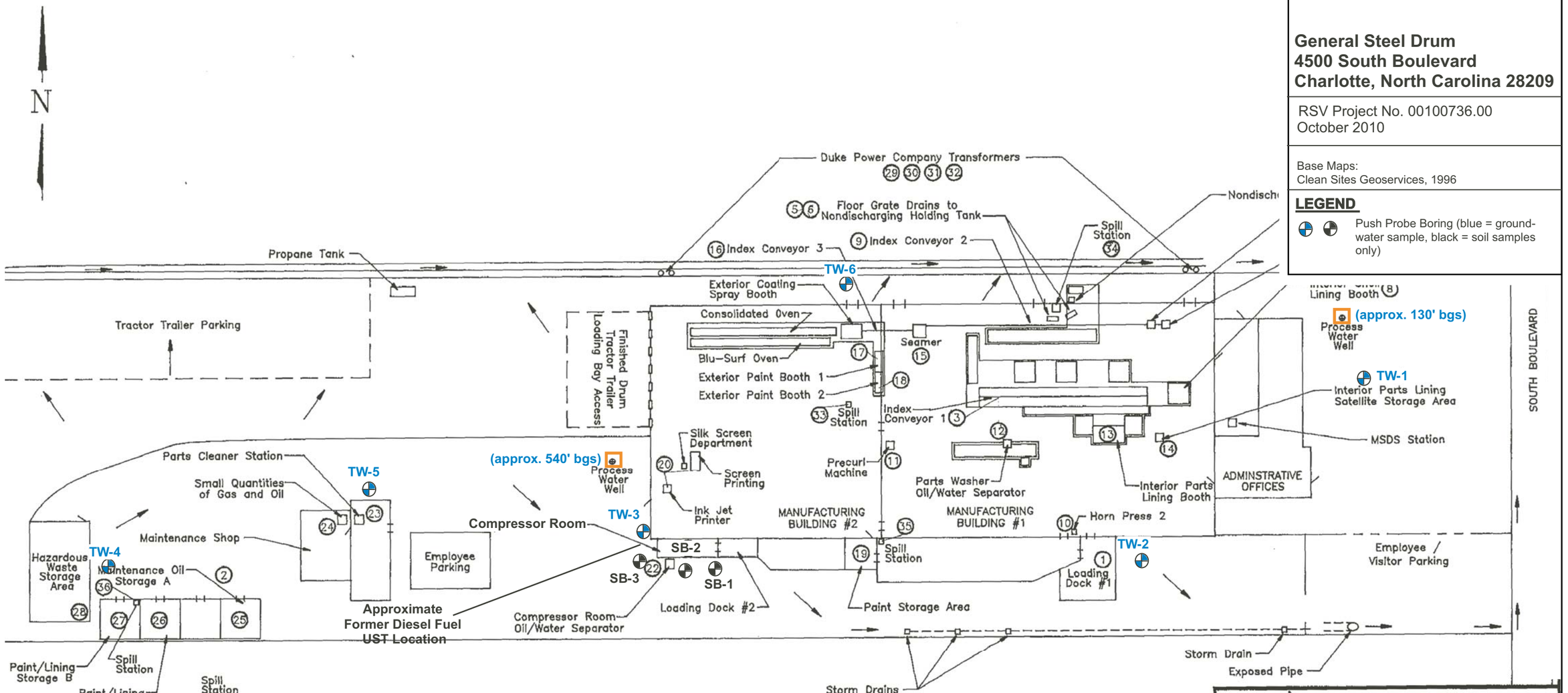
General Steel Drum
4500 South Boulevard
Charlotte, North Carolina 28209

RSV Project No. 00100736.00
October 2010

Base Maps:
Clean Sites Geoservices, 1996

LEGEND

Push Probe Boring (blue = ground-water sample, black = soil samples only)



KLEEN SITES GEOSERVICES

CLIENT	GENERAL STEEL DRUM CORPORATION
TITLE	FIGURE 2-1: POTENTIAL SPILL LOCATIONS
DRAWN BY: DAWN KUMANGAI	CHECKED BY: LEE NEWMAN
SCALE: 1" = 65'	DATE: MARCH 29, 1996

Appendices

Appendix A

RSV Standard Operating Procedures

RSV ENGINEERING, INC.
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FIELD DOCUMENTATION STANDARD OPERATING PROCEDURE

SOP ENV-10

Updated June 2009

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1. INTRODUCTION

This SOP presents the methods and procedures for documentation of activities while in the field. The SOP is intended to provide a framework that describes the minimum documentation field personnel should gather while in the field, however, additional documentation may be required based on site specific circumstances. In addition, field personnel should discuss specific project objectives and requirements with the RSV project manager prior to conducting field operations.

2. FIELD DOCUMENTATION

In general, field documentation should include, but is not limited to, properly utilizing daily logs and field logs as described in detail below.

2.1 Daily Logs

Field team members will keep a daily record of project activities that document their observations of significant events, findings, and measurements in a field log. All field

activities will be recorded on RSV field forms that will be considered the main source of field documentation for all activities including samples collected. The minimum required documentation includes, but is not limited to, the following:

1 Project name,

2 Field personnel,

3 Project personnel and/or site visitors,

4 Health and safety tailgate meetings,

5 Weather conditions,

6 Scale maps and/or drawings,

7 Photographs,

8 Date, time, media, number of containers filled and type, and locations of samples collected,

9 Sample types, methods of collection and equipment used, field instruments used and calibration,

10 Sample bottles, preservation, and handling,

11 Unique sample identification numbers,

12 Conferences associated with field sampling activities,

13 General chronology of daily events,

14 Sizes of underground storage tanks and associated piping, locations, depths, orientation, material types, and conditions,

15 Release reporting,

16 Number and locations of borings, wells, and test pits installed,

17 Site restoration,

18 Decontamination procedures,

19 Investigative-derived waste management,

20 Subsurface conditions encountered including soil descriptions and depths, presence or absence and depth of groundwater, and environmental observations and/or field screening results,

21 Field observations including sampling complications, and any deviations from Quality Assurance Project Plans (QAPPs), Sampling Analysis Plans, or project work plans,

Field notes will be maintained on a new page for each day. In general, sufficient information must be recorded during all field activities such that activities can be reconstructed without relying on the memory of the field personnel.

Field notes will be maintained on appropriate media such that they resist adverse field conditions. All pages will be dated and numbered consecutively. All pages will remain intact, and maintained in a central location within the project file. Notes will be taken in indelible, waterproof blue or black ink. Errors will be corrected by crossing out with a single line, dating, and initialing.

2.2 Field Logs

RSV will document certain kinds of activities on a designated field log, such as drilled, direct-push, or hand auger borings and sampling, temporary well point installation and sampling, monitoring well installation, test pit installation and sampling, or involved surface or near-surface soil penetration and sampling activities.

At a minimum the following information will be recorded for each of these referenced logs:

2.2.1 Drilled, Direct Push, or Hand Auger Borings

1. Project number,
2. Project name,
3. Project address,
4. RSV logger,
5. Boring start and end date and time,
6. Contractor name and equipment,
7. Sampling methods,
8. Abandonment materials,
9. Groundwater depth of occurrence,
10. Soil types encountered, USCS description, and depth (in accordance with SOPs ENV-140 and ENV-150),
11. Sample numbers and time,
12. Field screening results (in accordance with SOP ENV ENV-130),
13. Recovery and sample core interval,
14. Depth of investigation, and

15 Global positioning coordinate.

2.2.2 Temporary Well-Point Installation

All of 1 through 15 under *Drilled or Direct Push Borings* above, including:

16 Temporary well point screen diameter, slot-size and placement,

17 Depth and zone of temporary sand pack, if any,

18 Groundwater sampling data logged on the appropriate RSV temporary well point and monitoring well sampling form, including but not limited to: purge and sampling equipment used, volume of water purged, field parameter measurements, and samples collected.

2.2.3 Monitoring Well Installation

All of 1 through 15 under *Drilled, Direct Push, or Hand Auger Borings* above, including:

16 Well construction materials, dimensions, length of screen, rat-hole length, and screen slot size,

17 Sand pack size and depths,

18 Surface seal type and configuration,

19 Well completion type,

20 Well development (setting sand pack).

2.2.4 Test Pits

1 Project number,

2 Project name,

3 Date

4 Project address,

5 RSV logger,

6 Excavating company,

7 Excavating equipment,

8 Abandonment,

9 Groundwater depth of occurrence, if any,

10 Soil types encountered, USCS description, and depth (in accordance with SOP ENV-140),

11 Sample numbers and time,

12 Field screening results (in accordance with SOP ENV-130),

13 Depth of investigation.

2.2.5 Surface or Near-Surface Soil Penetration and Sampling

1 Project number,

2 Project name,

3 Date and time,

4 Project address,

5 RSV sampler,

6 Sampling methods,

7 Sample depth interval,

8 Soil type sampled including USCS description (in accordance with SOP ENV-140),

9 Environmental observations and field screening (in accordance with SOP ENV-130),

10 Global positioning coordinate.

Field logs will be maintained on a new page for each day. In general, sufficient information must be recorded during all field activities such that activities can be reconstructed without relying on the memory of the field personnel.

Field logs will be maintained on appropriate media such that they resist adverse field conditions. All pages will be dated and numbered consecutively. All pages will remain intact, and maintained in a central location within the project file. Logs will be taken in indelible, waterproof blue or black ink. Errors will be corrected by crossing out with a single line, dating, and initialing.

2.3 Sample Quality Control

All RSV personnel will identify and label samples in a consistent manner to ensure that the life-cycle of all samples collected in the field can be reproduced. In addition, all samples must provide information for the laboratory to conduct required analyses properly. Bottle storage, preservation, and handling in the field will be documented on field forms and logs. In all cases, samples collected must be managed in accordance with SOP ENV-100 *Sample Handling and Custody*.

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SAMPLE HANDLING AND CUSTODY STANDARD OPERATING PROCEDURE

SOP ENV-100

Updated June 2009

TABLE OF CONTENTS

1. INTRODUCTION

This standard operating procedure (SOP) describes the methods and procedures required for maintaining custody of the samples throughout the sample collection and shipping process, and provides specific procedures for sample shipping. The SOP herein was not designed to be exhaustive for all decontamination programs that may be required during field operations. As such, this SOP was developed only as a general guide that may require modification specific to a given project's requirements by the RSV project manager.

2. SAMPLE HANDLING

2.1 Sample Containers

Sample containers will be selected based on the laboratory parameter analyzed. All containers will be provided by the analytical laboratory in a new pre-cleaned condition, collected into the appropriate sampling container, and placed in a chilled cooler for shipment to the analytical laboratory.

2.2 Sample Identification and Labels

Each sampling container will be labeled prior to shipment to the analytical laboratory. At a minimum, each sample will be labeled with the date, time, project number, sampling personnel, company, and a unique sampling number. Individual and unique sample numbers will be selected utilizing the project number followed by a six digit reverse-date code followed by the sample number (i.e. 8047-080521-001).

3. SAMPLE CUSTODY

Chain-of-custody will be maintained for all samples collected as part of a project. Samples are considered to be in one's custody if they are: (1) in the custodian's possession or view; (2) in a secured location (under lock) with restricted access; or (3) in a container that is secured with an official seal(s) such that the sample cannot be reached without breaking the seal(s).

Chain-of-custody procedures will be followed for all samples throughout the collection, handling, and analytical testing that will be tracked on the chain-of-custody form. Each sample will be documented on the chain-of-custody record in indelible ink pen or type-written text. Any corrections necessary, will be made by drawing a single line through the error, initialing, then writing in the correct information and dating the change.

A chain-of-custody form will accompany each cooler of samples to the analytical laboratory. Custody will be documented by the laboratory signing the chain-of-custody acknowledging receipt and responsibility for the samples. The chain-of-custody form will then be used by the analytical laboratory to track sample handling and final disposition. The laboratory will return a signed chain-of-custody at the time of custody transfer that will serve as a written record of sample transfer.

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SAMPLING EQUIPMENT DECONTAMINATION STANDARD OPERATING PROCEDURE

SOP ENV-120

Updated June 2009

TABLE OF CONTENTS

1. INTRODUCTION

This standard operating procedure (SOP) describes the methods and procedures that will be used to decontaminate reusable soil and water sampling equipment that may come into contact with environmentally contaminated media. The SOP herein was not designed to be exhaustive for all decontamination programs that may be required during field operations. As such, this SOP was developed only as a general guide that may require modification specific to a given project's requirements by the RSV project manager.

The decontamination program herein is designed to: 1) minimize the spread of contaminants within a study area or from site to site, 2) reduce the potential for worker exposure, and 3) improve data quality and reliability by eliminating the opportunity for cross contamination. In all cases, personnel performing the decontamination procedures will wear protective clothing as specified in the site-specific Health and Safety Plan.

2. DECONTAMINATION REAGENTS

1 Detergents shall be non-phosphate,

2 Acid rinses (inorganic constituents) shall be reagent grade nitric or hydrochloric acid,

3 Solvent rinses (organic constituents) shall be pesticide grade methanol, hexane, isopropopanol or acetone,

4 Deionized water rinses shall be organic free, reagent grade (generally provided by laboratory),

5 Tap water rinses shall be either local tap water or distilled water available from retail stores. Note that this distilled water generally contains low levels of organic contaminants and can not be used for Deionized rinse or blanks.

3. DECONTAMINATION PROCEDURES

Reusable sampling equipment will be decontaminated in accordance with the environmental contaminants suspected or known to be present. More specifically, the purpose of a wash is to remove all visible particles and residual residue from the sampling equipment utilizing a scrub brush.

3.1 Low-Level Contamination Sites

Most low-level contamination sites will involve a four step decontamination procedure as follows:

1. Wash equipment with nonphosphate detergent, scrubbing off any residues
2. Rinse generously with tap water
3. Rinse with deionized water
4. Allow to air dry

3.2 Moderate-Level Contamination Sites

Additional measures may be necessary for moderate to heavily contaminated equipment that may utilize at least a five step decontamination procedure as noted for each of the general constituent categories below.

3.2.1 INORGANIC CONTAMINATED SAMPLING EQUIPMENT

1. Wash equipment with nonphosphate detergent, scrubbing off any residues

2. Rinse generously with tap water
3. Rinse equipment with acid rinse (0.1 N nitric or hydrochloric)
4. Rinse with deionized water
5. Allow to air dry

3.2.2 ORGANICALLY CONTAMINATED SAMPLING EQUIPMENT

1 Wash equipment with nonphosphate detergent, scrubbing off any residues
2 Rinse generously with tap water
3 Rinse equipment with solvent rinse
4 Rinse with deionized water
5 Allow to air dry

4. DECONTAMINATION OF SAMPLING PUMPS

When pumps (e.g., submersible or bladder) are submerged below the water surface to collect water samples, they shall be thoroughly cleaned and flushed between uses. This cleaning process consists of an external detergent wash and high-pressure tap water rinse, or steam cleaning of pump casing, tubing, and cables, followed by a flush of potable water through the pump. This flushing can be accomplished by placing the pump in a newly purchased plastic garbage can filled with tap water and pumping multiple volumes through the pump. The procedure should be repeated first with detergent water and then with tap water.

5. DECONTAMINATION OF DRILLING EQUIPMENT

It is the responsibility of drilling contractors to provide adequate resources necessary to ensure appropriate decontamination of their equipment, and containment for subsequent management of resultant waste. However, field personnel present should both observe and document this process to ensure that these procedures protect the environmental quality of the site.

At a minimum, all drilling equipment should be pressure-washed prior to, and immediately following, borehole locations. Equipment that is re-used for down-hole sampling (i.e. split spoon samplers) should be decontaminated in accordance with Section 3 *Decontamination Procedures* above.

6. INVESTIGATIVE DERIVED WASTE (IDW)

Investigative derived waste (IDW) will be managed in accordance with RSV SOP ENV-110 *IDW Management Procedures* and as modified to a specific project's requirements by the RSV project manager.

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SOIL FIELD SCREENING STANDARD OPERATING PROCEDURE

SOP ENV-130

Updated September 2009

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1. INTRODUCTION

This SOP presents the qualitative field screening methods that may be utilized for petroleum hydrocarbons in soil while in the field. Field screening may be conducted on soil samples obtained from exploratory boreholes, test pits, other excavations, or surface/near-surface samples, the results of which are site specific and may vary with soil type, soil moisture and organic content, ambient air temperature, and type of contaminant.

The field screening techniques described herein are used as a general guideline to delineate areas with potential residual hydrocarbons and possibly volatile organic compounds, in soils. In addition, field screening results may be used as a basis for selecting soil samples for chemical analysis. The SOP is not intended to be an exhaustive list, rather summarize those methods and procedures that are more commonly utilized for screening soil samples for the purpose of qualitatively assessing soil quality while in the field.

2. FIELD SCREENING METHODS

The field screening methods employed include 1) visual examination, including color and sheen testing; 2) olfactory evidence; and 3) headspace vapor testing using a photoionization detector (PID) (or equivalent meter) calibrated to isobutylene. Sheen testing and headspace vapor testing are sensitive screening methods that can be useful in detecting hydrocarbon

concentrations below typical regulatory cleanup guidelines; however, the effectiveness is dependant on site-specific characteristics (soil type, type of product released, age of release etc.). The results of field screening should be included on RSV Field Logs and/or Forms for the situation as appropriate.

2.1 Visual Screening

Visual screening consists of inspecting the soil for the presence of stains and/or sheens indicative of residual petroleum hydrocarbons. Visual screening can also be effective in detecting the presence of heavier petroleum hydrocarbons, such as motor oil, or when hydrocarbon concentrations are high. Indications of the presence of hydrocarbons typically include a mottled appearance or dark discoloration of the soil.

Sheen testing involves immersion of the soil sample in water and observing the water surface for signs of sheen. Typically, by introducing approximately 5 grams of disaggregated soil to water within either a stainless steel or dark plastic pan filled with clean water with as little disturbance as possible. Visual evidence of sheen forming on the surface of the water is classified as follows:

Parameter	Analytical Method
No sheen (NS)	No visible sheen on the water surface
Colorless Sheen (CS)	Light, nearly colorless sheen; spread is irregular, not rapid; film dissipates rapidly (Note: light colorless sheens can be confused with sheens produced by organic content). Note that this sheen may or may not indicate the presence hydrocarbons.
Heavy Sheen (HS)	Light to heavy colorful film with iridescence; stringy, spread is rapid; sheen flows off the sample; most or all of water surface is covered with sheen

2.2 Olfactory Screening

Olfactory screening can be effective in assessing for the presence of lighter volatile aromatic compounds associated with gasoline and diesel fuels, however, olfactory glands can become “sensitized” over time and effected based on site specific conditions (i.e. cold) or health of field screening personnel. Since there may be health and safety concerns with exposure to contaminants through inhalation, the presence of petroleum odor should only be noted as part of implementing other field screening methods and should only be considered an inadvertent indicator; however, should not be conducted as the only method of screening.

2.3 Headspace Vapor Screening

Organic vapor levels in soil samples may be measured by the headspace vapor method utilizing a PhotoVac MicroTIP equipped with a PID and a 10.6 electron volt (eV) lamp.

Immediately following the collection, a small representative soil sample sample is placed in a plastic bag and sealed that is allowed to sit at ambient temperature for approximately 10 minutes. The detector probe is then inserted through the seal into the bag to collect the headspace sample. The instrument measures the concentration of organic vapors within the sample bag in parts per million (ppm). All field screening results should be documented in field forms and/or notes.

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SOIL SAMPLE DESCRIPTION
STANDARD OPERATING PROCEDURE

SOP ENV-140

Updated June 2009

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TABLES

1. INTRODUCTION

This SOP presents the methods and procedures for classification of soils while in the field considered to be an essential part of interpretive efforts regarding one or more sites. In general, RSV follows the Unified Soil Classification System (USCS) that provides a conventional system for categorizing soils by gradation and plasticity characteristics as provided in detail in the American Society for Testing Materials (ASTM) D-248793 *Standard Classification of Soils for Engineering Purposes (United Soil Classification System)* and ASTM D-2488-84 *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)*.

In general, the similarities of consecutive soil samples should be emphasized and minor differences de-emphasized. These descriptions will be used to assess environmental and aquifer properties and other potential contaminant transport properties, rather than interpret mineralogy or tectonic environment.

2. SOIL SAMPLE DESCRIPTION

The physical properties of all soils observed will be logged in the field by an RSV field representative experienced in such under the supervision of a licensed geologist. Soils should be classified utilizing the USCS as noted above; USCS soil type designations will be field

approximations only and will typically not be confirmed by laboratory analyses. Table 1 provides a "USCS Soil Field Description Assistant" while Table 2 provides generic "Field Description Tests", that expand on the below general classification scheme:

- Coarse-grained soil descriptions will include: group name, symbol, grading, color, density, moisture and environmental observations.

- Fine-grained soil descriptions will include: group name, group symbol, color, moisture plasticity, and environmental observations.

All properties and observations will be recorded on RSV Field Forms and Logs as appropriate.

TABLE 1 – USCS Soil Field Description Assistant

Generic Description:
Primary Modifier(s), PRIMARY CONSTITUENT, Secondary Modifier(s), USCS Symbol - grain size (optional: % each grain-size, range of grain size, and angularity), color, moisture, consistency/density, plasticity, grading (coarse grained soil only other observations, environmental observations

Primary Modifier	**Primary Constituent** (highest %)	**Secondary Modifier**	**USCS Symbol** (use gauge)	
Coarse Grained:	BOULDERS	Coarse grained:	GW	ML
30-50% ADD "LY"	COBBLES	15-30% add "with some"	GP	CL
	GRAVEL	15%< add "with trace"	GM	OL
	SAND		GC	MH
Fine Grained:		Fine grained:		
10-50% add "ly"	SILT	5-10% add "with some"	SW	CH
	CLAY	5%< add "with trace"	SP	OH
	PEAT		SM	OH
			SC	PT

Grain Size (use gauge)	**Angularity** (use gauge)	**Color** (use gauge)	**Moisture**	**Consistency/ Density**			
				Coarse grained		Fine grained	
				Modifier	Blows/ft	Modifier	Blows/ft
coarse gravel	v angular	brown	dry	v loose	<4	v soft	<2
fine gravel	angular	light brown	moist	loose	4-10	soft	2-4
coarse sand	sub-angular	yellow orange	wet	m dense	11-30	m stiff	5-8
medium sand	sub-rounded	light gray		dense	31-50	stiff	9-15
fine sand v fine sand	rounded	dark gray		v dense	50>	v stiff	16-30
	well rounded	greenish gray				hard	31-60
		olive gray				v hard	>60

Consistency (fine grained soil)	**Grading** (coarse grained soil)	**Other Observations**	**Environmental Observations**
non-plastic	well-graded	fill materials	O = odor
low plastic	poorly-graded	cementation	S = sheen by sheen test
med. Plastic	uniformly graded	structure	D = discoloration
highly plastic	gap-graded		FP = free product

TABLE 2 – Soil Field Description Tests

Parameter	Descriptor	Field Test
Moisture	**Dry**	Absence of moisture, dusty, dry to the touch, considerable addition of moisture required to obtain optimum moisture content
	Moist	Damp but no visible water, near optimum moisture content.
	Wet	Near or below the water table - requires drying to obtain optimum moisture content
Consistency	**Non-plastic**	A 1/8" thread cannot be rolled at any water content
	Low-plasticity	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit
	Med. Plasticity	The thread is easy to roll and not much time is required to reach the plastic limit; the thread cannot be re-rolled after reaching the plastic limit
	High Plasticity	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be re-rolled several times after reaching the plastic limit
Density	**Very Loose**	Easily penetrated many inches (>12) with 1/2" rebar pushed by hand
	Loose	Easily penetrated several inches with 1/2" rebar pushed by hand
	Medium Dense	Easily to moderately penetrated with 1/2" rebar driven by 5 lb. hammer
	Dense	Penetrated 12" with difficulty using 1/2" rebar driven by 5 lb. hammer
	Very Dense	Penetrated only a few inches with 1/2" rebar driven by 5 lb. hammer
Grading	**Well-Graded**	Full range and even distribution of grain sizes present (GW/SW)
	Poorly-Graded	Narrow range of grain sizes present (fine to medium SP)
	Uniformly Graded	Consists predominantly of one grain size (fine SP)
	Gap-Graded	Within range of grain sizes present, one or more sizes are missing (fine sand with some coarse gravel (SP)

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LOGGING OF SOIL BOREHOLES AND TEST PITS STANDARD OPERATING PROCEDURE

SOP ENV-150

Updated June 2009

TABLE OF CONTENTS

1. INTRODUCTION

This Standard Operating Procedure (SOP) presents the general procedures for logging soil boreholes and/or test pits. These procedures, establish the minimum information that must be recorded in the field to adequately characterize soil boreholes and/or test pits.

Soil description procedures are adapted from the American Society for Testing Materials (ASTM) D-248793 *Standard Classification of Soils for Engineering Purposes (United Soil Classification System)* and ASTM D-2488-84 *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)*. This SOP modifies some of these procedures in that it is designed to emphasize environmental investigations as opposed to geotechnical investigations for which ASTM standard are written. Because environmental projects are each unique and situation's requirements can vary widely, the minimum standards presented may need to be supplemented with additional technical descriptions or field test results. However, all RSV soil boring and/or test pit field logs, regardless of special project circumstances, must include the information addressed in this SOP to achieve the minimum acceptable standards of documentation.

2. BASIC INSTALLATION INFORMATION

At a minimum, the RSV boring or test pit log must include the following.

1. **Project Number:** Project Number. Use the standard contract number and acronym.
2. **Client:** Identify the name of the client and the project site location.

3. **Location:** If stationing, coordinates, mileposts, or similar are applicable identify the location of the project. Collect a gps coordinate of work site and all investigative locations.
4. **Drilling/Test Pit Method:** For drilling projects, identify the bit size and type, drilling fluid (if used), and method of drilling (e.g., rotary, hollow-stem auger, cable tool) and the name of the drill rig (e.g., Mobil B 61, CME 55); for test pit projects identify the equipment type, make and model number as well as bucket dimensions used.
5. **Installation Specifications:** Provide the diameter of drilled boreholes; if variable, provide the depth interval for each diameter. Provide the dimensions of all test pits in length, width, and depth.
6. **Sampling Method:** Identify the type of sampler(s) used (e.g., standard split spoon, acetate sleeve, grab etc..
7. **Contractor:** Provide the name of the drilling and or excavation contractor.
8. **RSV Staff:** Enter the name(s) of staff performing logging and sampling activities.
9. **Water Level Information:** Provide the date, time, depth to static water, and depth from top of temporary/permanent casing in drilled boreholes and from land surface at test pit locations. Generally, water levels should be taken each day before resuming drilling and at the completion of drilling. If water is not encountered in the boring or test pit, this information should be recorded.
10. **Installation Number:** Provide a unique boring and/or test pit number for each location. For more complex sites, a numbering system should be developed prior to drilling and/or test pitting in accordance with SOP ENV-100 *Sample Handling and Custody Procedures* and such that it does not conflict with other site information, such as previous drilling or other sampling activities.
11. **Sheet:** Number the sheets consecutively for each boring and/or test pit log and continue the consecutive depth numbering.
12. **Start and Finish:** Provide the drilling / test pit start and finish dates and times.
13. For consecutive sheets provide, at a minimum, the job number, the installation number, and the sheet number.

3. TECHNICAL DATA

1. **Sampler Typ**e: Provide the sampler type (split spoon, acetate sleeve, grab etc.)
2. **Depth of Installation:** Enter the depth of the boring and/or test pit below ground surface (bgs) immediately prior to sampling.
3. **Driven/Recovery:** For boring installations, provide the length that the sampler was driven and the length of sample recovered in the sampler.
4. **Sample Number/Sample Depth:** Provide the sample number, depth, and time of collection. The sample numbering scheme should follow SOP ENV-100 *Sample Handling and Custody Procedures*. The soil sample interval from drilled borings is determined

assuming the top of the recovered soil interval begins at the top of the soil interval collection point (i.e. 2 feet of soil observed in a 5-foot Macrocore is logged as originating from the 10 to 12 foot interval); samples should be obtained from the middle of the recovered sample. Samples from test pits are usually reported in zones of half-foot increments from (i.e. depth zone between 5.0 and 5.5 feet bgs) relative to depth below ground surface (bgs).

5. **Standard Penetration Test:** In situations where a hollow stem auger drilling rig is used, record the number of blows for each 6 in. of split-spoon sampler penetration.
6. **Depth:** Use a depth scale that is appropriate for the complexity of the subsurface conditions.
7. **Surface Conditions:** Describe the surface conditions (e.g., paved, 4-in. concrete slab, grass, natural vegetation and surface soil, oil-stained gravel) and note them on the standardized field log.
8. **Soil Description:** The classification of soil should follow SOP ENV-140 *Soil Description Procedures*.
9. **Soil Field Screening:** The screening of soils for environmental contamination should follow those procedures in SOP ENV-130 *Soil Field Screening*.
10. **Soil Sample Collection:** Soil sample collection should follow those procedures in SOP ENV-200 *Soil Sampling Procedures*.
11. **Comments:** Include all pertinent observations that may include, but are not limited to: rod-bounce or chatter (coarse-grained materials), sudden differences in drilling speed (change in formation), damaged samplers, and malfunctioning equipment, environmental observations, or fill materials encountered.

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SOIL SAMPLE COLLECTION STANDARD OPERATING PROCEDURE

SOP ENV-200

Updated June 2009

TABLE OF CONTENTS

1. INTRODUCTION

This standard operating procedure (SOP) describes the methods and procedures that may be utilized for collecting soil samples while in the field. The SOP is not intended to be an exhaustive list, rather summarize those methods and procedures that are more commonly utilized for collecting representative soil samples for the purpose of assessing soil quality. As such, this SOP was developed only as a general guide that may require modification specific to a given project's requirements by the RSV project manager. In addition, all sampling efforts must be conducted in accordance to the site-specific health and safety plan utilizing personnel protective equipment suitable to meet site conditions.

2. SOIL SAMPLE COLLECTION METHODS AND PROCEDURES

Soil samples may be obtained using a variety of methods and equipment depending on site-specific factors including, but not limited to, sample depth, type (disturbed or undisturbed), soil type, purpose, and locations of underground utilities and physical features, utilizing various

methods including, but not limited to, drilled soil borings, push probe borings, hand auger borings, or from directly from surface or near-surface soils using hand tools. In addition, in some circumstances, soil samples may require preservation, and as such, these samples will be collected utilizing a new dispensable laboratory-provided sampling device in accordance with the directions for that particular device.

2.1 Sonic Soil Boring Samples

Sonic borings are typically cored using a 5-inch outer-diameter (OD), 5-foot long, stainless-steel, core sampler, that is advanced as the drill casing is advanced into the subsurface.

Soil samples are typically collected from the core-barrel following extrusion into a 5-foot long plastic bag. If needed, soil samples will be collected by cutting open the plastic bag, sampling directly into a 4 or 9-ounce sample jar, by pushing a 6-inch long brass sleeve into the desired sample location that will be capped with Teflon paper, plastic end caps, and sealed with non-volatile silicon tape, or sampled with a laboratory-provided coring device. Other sampling methods may be utilized that are beyond the scope of this SOP. Boreholes will be abandoned in accordance with Oregon Water Resources Department requirements. Boreholes will be abandoned in accordance with Oregon Water Resources Department requirements.

2.2 Hollow-Stem Auger Soil Borings

Soil samples from hollow-stem auger drilled borings will be collected with a 2-inch OD split-barrel sampling device that will be driven into the undisturbed soils 1.5 feet ahead of the drill bit, using a Standard Penetration Test (SPT).

Soil samples collected from the split-spoon sampling device will be manually transferred to a 4 or 9-ounce sample jar and capped with Teflon lined lid. In cases where brass sleeves are utilized (i.e., where volatile compounds are of interest), the sleeve containing the sample will be capped with Teflon paper, plastic end caps, and sealed with non-volatile silicon tape, or sampled with a laboratory provided coring device. Other sampling methods may be utilized that are beyond the scope of this SOP. Boreholes will be abandoned in accordance with Oregon Water Resources Department requirements.

2.3 Push Probe Borings

Continuous soil cores will be collected from push probe borings using a 2-inch OD, 4 or 5-foot long, stainless-steel, Macro-Core sampler, fitted with a polyvinyl chloride (PVC) or acetate sleeve, that will be advanced up to 5 feet into undisturbed soils.

Soil samples will be collected from push probes by cutting open the PVC sleeve and placing soil in either a 4 or 9-ounce sample jar that is capped with Teflon lined lid. In cases where volatile compounds will be analyzed, soil samples will be collected by utilizing a laboratory provided coring device and sampling container or by cutting a 6-inch long section from the PVC sleeve that will immediately be capped with Teflon paper, plastic end caps, and sealed with silicon (non-VOC) tape. Other sampling methods may be utilized that are beyond the scope of this SOP. Boreholes will be abandoned in accordance with Oregon Water Resources Department requirements.

2.4 Test Pits

Shallow test pits (usually less than 12 feet deep) will be installed utilizing a rubber-tire backhoe and/or excavator. A test pit measuring approximately 3 feet wide by 5 feet long will typically be excavated to the depth of investigation.

Upon bringing the backhoe bucket to the surface, a sample will be obtained by scraping away approximately 3 inches of soil from the surface and immediately collecting the sample into a 4 or 9-ounce glass sample jar with teflon-lined lid using a newpair of polyvinyl chloride (PVC) gloves. In cases where volatile organic compounds are anticipated for analysis soil samples will be collected by utilizing a laboratory provided coring device and sampling container or by cutting a 6-inch long section from the PVC sleeve that will immediately be capped with Teflon paper, plastic end caps, and sealed with silicon (non-VOC) tape. Following completion, the test pit will be backfilled with the removed soil and compacted with the backhoe bucket in two-foot lifts, unless dictated otherwise by site conditions or the project manager.

2.5 Hand Auger Borings

Soil samples collected can be collected from a hand auger equipped with a 2-inch OD hollow bit. Once the desired sampling depth is attained, the hand auger will be removed from the hole and soil collected from the auger tip.

In cases where volatile compounds will be analyzed, once the desired sampling depth is reached, upon removal of the auger, a laboratory provided coring device will be used

to collect a sample from the auger tip into the appropriately preserved sampling container. Alternatively, samples may be collected with a decontaminated slide-hammer sampler equipped with a 6-inch long brass sleeve capped and sealed as noted in Section 3.3 above. Where appropriate, hand auger borings will be abandoned in accordance with Oregon Water Resources Department requirements.

2.6 Surface Soil Samples

Surface grab soil samples will be collected utilizing a new pair or nitrile gloves with access facilitated using a decontaminated stainless steel trowel, if necessary, and by scraping approximately 3-inches of overly soil from beneath asphalt, concrete, gravel, or soil surface cover directly into a laboratory provided sampling container.

2.7 Manhole/Catch Basin Solids Samples

Samples of solids from manholes or catch basins will be collected from the inside bottom portion of manholes/catch basins with a decontaminated stainless-steel hand auger. For safety reasons, manholes will not be physically entered by sampling personnel. The solids samples will be collected at the bottom portion of the installation in areas away from the main flow.

3. OTHER RELATED SOP

Soil sampling activities must be conducted in accordance with the following RSV SOP's:

1) ENV-10 *Field Documentation,*
2) ENV-100 *Sample Handling and Custody,*
3) ENV-110 *Investigative Derived Waste Management,*
4) ENV-120 *Equipment Decontamination,*
5) ENV-130 *Soil Field Screening,*
6) ENV-140 *Soil Sample Description,*
7) ENV-150 *Logging of Boreholes and Test Pits.*

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PUSH PROBE AND TEMPORARY WELL POINT GROUNDWATER SAMPLING STANDARD OPERATING PROCEDURE

SOP ENV-320

Updated July 2009

TABLE OF CONTENTS

1. INTRODUCTION

This standard operating procedure (SOP) describes the methods and procedures that will be used to obtain a representative sample of groundwater sample from a temporary well point or push probe boring using several types of commonly used equipment. The SOP herein was not designed to be exhaustive for all sampling programs that may be required during field operations, and as such, this SOP was developed only as a general guide that may require modification specific to a given project's requirements by the RSV project manager.

In all cases, personnel performing the sampling procedures will wear protective clothing as specified in the site-specific Health and Safety Plan.

2. TEMPORARY WELL POINT INSTALLATION AND SAMPLING

2.1 Screen Placement

1. Measure water level in push-probe or auger boring to ensure temporary well point screen is placed across the depth of the soil/water interface, or at the depth specified in the site-specific work plan and/or RSV project manager. Consider possibility of perched groundwater or sealed-of zones when measuring static water level. In some cases, it may be prudent to pull-back outer casing slightly based on subsurface soil encountered.

2. Set the temporary well point screen, and if possible, place a temporary sand-pack around the screen to reduce fines in the water sample.
3. Expose temporary well point screen and sand pack, if any, by pulling back outer casing.
4. Measure and document static water level on the RSV temporary well point record.
5. Calculate one casing storage volume then multiply by three to obtain minimum volumes desired to be purged.
6. Document all findings on RSV field forms and logs.

2.2 Purging

7. Lower decontaminated submersible pump or unused disposable sample tubing to peristaltic pump into upper three-feet of static water level within the borehole; leave sufficient length at land surface such that pump tubing can be lowered if well draws down more than three feet.
8. Attempt to purge at least one borehole volume with a preference for three; if possible, gather basic field parameters of ph, temperature, and conductivity for each borehole volume.
9. Purge the temporary well point at a rate such that the well does not draw down more than three feet from static water level, if the pump draws-down more than three feet, lower the pump intake or tubing as in 3 above; however, do not lower such that it hits the bottom of the well that could disturb settled sediments.
10. Monitor the cumulative volume pumped using an in-line meter or graduated container while.
11. Measure field parameters required for the project, but at a minimum, pH, temperature, and specific conductance at regular intervals. Verify static water level with an electric water level meter (conductive probe) at selected times during the purging process.
12. Well purging is complete when three well volumes have been purged and the minimum parameters of pH, temperature, and specific conductance have stabilized (as well as any other required parameters); or the temporary well point has gone dry and recharged sufficiently for collection of samples.

2.3 Sample Collection

13. After purging has been completed, carefully fill each laboratory-supplied sample container, making an effort to minimize sample turbulence. As appropriate, sample containers will be filled in the following order: organic compounds (volatile organic compounds, total petroleum hydrocarbons, semi-volatile organic compounds, polychlorinated biphenyls), specialty parameters, and inorganics (unfiltered followed by filtered). Volatile organic compounds should not be collected utilizing a peristaltic pump unless purging data meet the criteria for low-flow sampling (see RSV SOP ENV-310). In circumstances where VOC samples are required, field personnel can either use the purge water tubing as a mini-bailer for collection of a sample with minimal disturbance or volatilization, or alternatively use a submersible pump at low flow rate (100 ml/l) if it had been used for temporary well point purging.
14. All VOC sample containers should be inverted to ensure they do not contain any headspace or air bubbles. All other sample containers should be filled to the top. Containers that have preservatives added to them prior to sampling will not be overfilled. Repeat this step until a sufficient sample volume is acquired.

2.4 Other Procedures

15. Collect Static water level measurements using principals in SOP ENV-330 *Static Water Level Measurement Procedure*.
16. Manage all samples in accordance with SOP ENV-100 *Sample Handling and Custody Procedures*.
17. Mange all investigative derived waste (IDW) with SOP ENV-110 *IDW Management Procedures*.
18. Decontaminate re-usable sample equipment in accordance with SOP ENV-120 *Equipment Decontamination Procedures*.

Appendix B

Field Push Probe Drilling Logs

BORING LOG KEY

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)				
MAJOR DIVISIONS			GROUP SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS	GRAVELS	Clean Gravels (little or no fines)	GW	Well Graded Gravels, Gravel-Sand Mixtures, Little or no Fines
			GP	Poorly Graded Gravels, Gravel-Sand Mixtures, Little or no Fines
		Gravels With Fines (appreciable amount of fines)	GM	Silty Gravels, Gravel-Sand-Silt Mixtures
			GC	Clayey Gravels, Gravel-Sand-Clay Mixtures
	SANDS	Clean Sand (little or no fines)	SW	Well-Graded Sands, Gravelly Sands, Little or no Fines
			SP	Poorly-Graded Sands, Gravelly Sands, Little or nno Fines
		Sands with Fines (appreciable amount of fines)	SM	Silty-Sands, Sand-Silt Mixtures
			SC	Clayey Sands, Sand-Clay Mixtures
FINE GRAINED SOILS	SILTS AND CLAYS Liquid Limit Less Than 50		ML	Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands or Clayey Silts
			CL	Inorganic Clays, Gravelly Clays, Sandy Clays, Silty Clays, Loean Clays
			OL	Organic Silts and Silty Clays
	SILTS AND CLAYS Liquid Limit Greater Than 50		MH	Inorganic Silts, Micaceous or diatomaceous Fine Sand or Silty Soil
			CH	Inorganic Clays and Organic Silts
			OH	Peat, Humus, Swamp Soils with Organics
HIGHLY ORGANIC SOILS			Pt	Peat and Other Highly Organic Soils

Abbreviations Used:

hrs. = hours

No. = number

PID = photoionization detector

TWP = temporary well point

USCS = Unified Soil Classification System

Symbols Used:

▼ Estimated Water Level During Drilling

Limitations:

Boring log soil description and classification is based on field observations conducted using the degree of care and skill ordinarily exercised by, and consistent with, the standards of competent environmental science professionals. Soil observations are not based on field or laboratory testing. No explatory program can eliminate uncertainty regarding stratigraphic boundaries, and as such, logged descriptions are approximate representations only. In addition, no warranty is provided as to the continuity of soil strata between borings.

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TABLE 1 – Rock Core Field Reference Sheet

Lithology

Texture:

Pegmatitic (PEG) - grains very large
Phaneritic (PHAN) - grains seen with naked eye
Aphanitic (APH) - grains cannot be seen with naked eye

Weathering:

Fresh (F)	Rock is fresh, crystals are bright, few joints, may show slight staining as a result of groundwater. Rock rings under hammer if crystalline.
Very Slight (VSL)	Rock is generally fresh, joints are stained, some joints may have thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.
Slight (SL)	Rock is generally fresh, joins are stained and discoloration extends into rock up to 1 in. Joints may contain clay. In granitoid rocks some feldspar crystals are dull and discolored. Rocks ring under hammer if crystalline.
Moderate (M)	Significant portions of rock show discoloration and weathering effects. In granitoied rocks, most feldspars are dull and discolored; some are clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.
Moderately Severe (MS)	All rock, except quartz, discolored or stained. In granitoied rocks, all feldspars dull and discolored an majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.
Severe (SV)	All rock, except quartz, discolored or stained. Rock "fabric" is clear and evident but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of harder rock usually left such as corestonses in basalt.
Very Severe (VSV)	All rock, except quartz, discolored or stained. Rock "fabric" is discernible, but mass effectively reduced to :soil" with only fragments of harder rock remaining.
Complete (C)	Rock is reduced to "soil". Rock "fabric" is not discernible, or only in small scattered locations. Quartz may be present as dikes or stringers.

Discontinuity

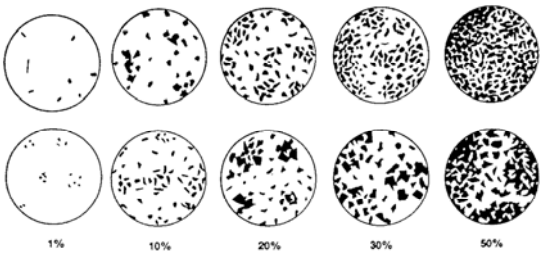
Consistency	Designation	UCS (appx.)	Field Identification:
Very Soft (VS)	R1	28 -100	Crumbles under firm blows with point of geology pick, can be peeled by a pocket knife
Soft (S)	R2	100 -1,000	Can be peeled with a pocket knife with difficulty, shallow indentation made by firm blows of geology pick
Medium Hard (MH)	R3	4,000 - 8,000	Cannot be scraped or peeled withy a pocket knife, specimen can be fractured with a single firm blow of geology hammer
Hard (H)	R4	8,000 - 16,000	Specimen required more than one blow with a geology hammer to fracture it
Very Hard (VH)	R5	16,000 - 32,000	Specimen required many blows of geology hammer to fracture it
Very High Strength (VHS)	R6	R>32,000	Specimen can only be chipped with a geology hammer

Structure (joints/bedding spacing):

Spacing	Joints	Bedding
2 in.	Very close	Very thin
2 in - 1 ft	Close	Thin
1 ft - 3 ft	M. Close	Medium
3 ft - 10 ft	Wide	Thick

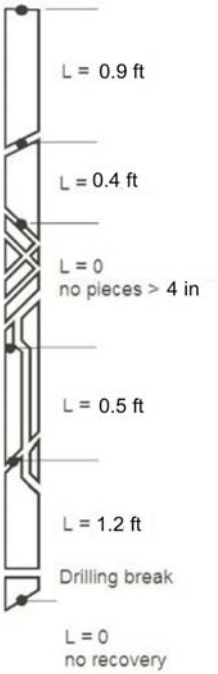
Vesicularity:

Dense (non) - <1%
Slightly Vesicular - 1 - 10%
M. Vesicular - 10 - 30%
Highly Vesicular - 30 - 50%
Scoriaceous - >50%



Roughness:

Stepped - Near normal steps and ridges occur on the fracture surface
Rough - Large, angular asperities can be seen
M. Rough - Asperities are clearly visible and fracture surface feels abrasive
SL Rough - Small asperities on the fracture surface are visible and can be felt
Smooth - No asperities, smooth to the touch



Total length of core run = 5 ft
Total core recovery = 4.2 ft (84%)

$$RQD = \frac{\Sigma \text{ Length of core pieces} > 4 \text{ in length}}{\text{Total length of core run}} \times 100$$

$$RQD = \frac{1.2 + 0.5 + 0.4 + 0.9}{5.0} \times 100 = 60\ \%$$

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BORING LOG **TW-1**

Project Number: 0010736.00 Phase 002	**Boring Start:** 107/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment / Temp. Construction / Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
	0								
Bentonite / temporary riser	1								SILT (ML) - pink-orange-white mottled, moist, firm, no odor, no discoloration
	2								
	3								
	4								
	5	-		0.0					SILT (ML) - as above, no odor, no discoloration
	6								
	7								
	8								
	9								
	10	-		0.0					SILT (ML) - as above, no odor, no discoloration
	11								
	12								
	13								
	14								
	15	-		0.0					SILT (ML) - as above, no odor, no discoloration
	16								
	17								
temporary screen	18								
	19								
	20	-		0.4					SILT (ML) - as above, no odor, no discoloration

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BORING LOG **TW-1**

Project Number: 0010736.00 Phase 002	**Boring Start:** 107/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
	temporary screen		21								SILT (ML) - as above, no odor, no discoloration
			22								
			23								
			24								
			25	-		-					SILT (ML) - as above, no odor, no discoloration
			26								
			27								
			28								
			29								
Bentonite	temporary screen		30	-		-					SILT (ML) - as above, no odor, no discoloration
			31								
			32								
			33								
			34								
			35	-		-					SILT (ML) - as above, no odor, no discoloration
			36								
			37								Bottom of boring 35' bgs Temporary well point completed to 15-25' bgs (10/6/10), then 25-35' bgs (10/7/10): water was not encountered. Boring abandoned 10/7/10)
			38								
			39								
			40								

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BORING LOG **TW-2**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/7/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment / Temp. Construction / Ground Water	Depth	Sample No.	PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
	0							
asphalt	1							Asphalt
	2							SILT (ML) -pink-orange-white mottled, moist, firm, no odor, no discoloration
	3							
	4							
	5	-	0.2					SILT (ML) - as above, no odor, no discoloration
	6							
	7							
	8							
	9							
Bentonite	10	-	0.0					SILT (ML) - as above, no odor, no discoloration
	11							
	12							
	13							
	14							
	15	-	0.1					SILT (ML) - as above, no odor, no discoloration
	16							
	17							
	18							
temporary screen	19							
temporary riser 10/7/10	20	-	0					SILT (ML) - as above, most to wet, no odor, no discoloration

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BORING LOG **TW-2**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/7/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
Bentonite	temporary screen		21								SILT (ML) - as above, no odor, no discoloration
			22								
			23								
			24								
			25	-		-					SILT (ML) - as above, no odor, no discoloration
			26								
			27								Bottom of boring 25' bgs Temporary well point completed to 15-25' bgs (10/7/10); Sample TW-102 collected 10/7/10 @ 11:00 hrs Boring abandoned 10/7/10)
			28								
			29								
			30								
			31								
			32								
			33								
			34								
			35								
			36								
			37								
			38								
			39								
			40								

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BORING LOG **TW-3**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment / Temp. Construction / Ground Water	Depth	Sample No.	PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
	0							
asphalt	1							Asphalt
	2							SILT (ML) - red-orange, moist, firm, no odor, no discoloration
	3							
	4							
	5	-	0.2					SILT (ML) - as above, no odor, no discoloration
temporary riser	6							
	7							
	8							
	9							
Bentonite	10	-	4.8					SILT (ML) - as above, no odor, no discoloration
	11							
	12							
	13							
	14							
	15	-	3.2					SILT (ML) - as above, no odor, no discoloration
	16							
	17							SILT (4-inch gravel lenses at 16 and 18 feet bgs) (ML) - red-orange, moist, firm, no odor, no discoloration
	18							
temporary screen	19							
10/6/10	20	-	5.4					

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BORING LOG **TW-3**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
Bentonite	temporary screen		21								SAND (SP) - red-orange, wet, dense, no odor, no discoloration
			22								
			23								
			24								
			25	-		-					SAND (SP) - as above, no odor, no discoloration
			26								Bottom of boring 25' bgs Temporary well point completed to 15-25' bgs (10/6/10); Sample TW-103 collected 10/7/10 @ 11:30 hrs Boring abandoned 10/7/10)
			27								
			28								
			29								
			30								
			31								
			32								
			33								
			34								
			35								
			36								
			37								
			38								
			39								
			40								

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BORING LOG **TW-4**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/6/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment / Temp. Construction / Ground Water	Depth	Sample No.	PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
	0							
asphalt	1							Asphalt
	2							CLAY with trace Gravel (CL) - red-brown, moist, firm, no odor, no discoloration
	3							
	4							
	5	-	2.4					CLAY with trace Gravel (CL) - as above, no odor, no discoloration
temporary riser	6							
	7							
	8							
	9							
Bentonite	10	-	0.0					CLAY with trace Gravel (CL) - as above, no odor, no discoloration
	11							
	12							
	13							
	14							
	15	-	0.4					CLAY with trace Gravel (CL) - as above, no odor, no discoloration
10/6/10	16							
	17							
temporary screen	18							
	19							
	20	-	0.0					

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BORING LOG **TW-4**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/6/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
Bentonite	temporary screen		21								CLAY with trace Gravel (CL) - as above, no odor, no discoloration
			22								
			23								
			24								
			25	-		-					CLAY with trace Gravel (CL) - as above, no odor, no discoloration
			26								Bottom of boring 25' bgs Temporary well point completed to 15-25' bgs (10/6/10); Sample TW-104 collected 10/6/10 @ 14:00 hrs Boring abandoned (10/6/10)
			27								
			28								
			29								
			30								
			31								
			32								
			33								
			34								
			35								
			36								
			37								
			38								
			39								
			40								

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BORING LOG **TW-5**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
			0								
Bentonite	asphalt / temporary riser		1								Asphalt
			1								CLAY with trace Sand (CL) - red-brown, moist, firm, no odor, no discoloration
			2								
			3								
			4								
			5	-		6.7					CLAY with trace Sand (CL) - as above, no odor, no discoloration
			6								
			7								
			8								
			9								
			10	-		4.5					SILT with trace Gravel (ML) - as above, no odor, no discoloration
			11								
			12								
			13								
			14								
			15	-		5.8					SILT with trace Gravel (ML) - red-brown, moist to wet, firm, no odor, no discoloration
			16								
	temporary screen	10/7/10	17								Very Severely Weathered BEDROCK - moist-wet, no odor, no discoloration
			18								
			19								
			20	-		6.6					

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BORING LOG **TW-5**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
Bentonite	temporary screen		21								Very Severely Weathered BEDROCK - as above, wet, no odor, no discoloration
			22								
			23								
			24								
			25	-		-					
			26								Bottom of boring 25' bgs Temporary well point completed to 15-25' bgs (10/6/10); Sample TW-105 collected 10/7/10 @ 12:30 hrs Boring abandoned 10/7/10)
			27								
			28								
			29								
			30								
			31								
			32								
			33								
			34								
			35								
			36								
			37								
			38								
			39								
			40								

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BORING LOG **TW-6**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
			0								
Bentonite	asphalt / temporary riser		1								Asphalt
			1								SILT (ML) - red-orange, moist, firm, no odor, no discoloration
			2								
			3								
			4								
			5	-		4.3					SAND with some Silt (SM) - red-orange, moist, loose, no odor, no discoloration
			6								
			7								
			8								
			9								
			10	-		2.3					SAND with some Silt (SM) - as above, no odor, no discoloration
			11								
			12								
			13								
			14								
			15	-		3.0					SAND with some Silt (SM) - as above, no odor, no discoloration
			16								Very Severely Weathered BEDROCK - moist-wet, no odor, no discoloration
			17								
			18								
			19								
			20	-		4.5					

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BORING LOG **TW-6**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/6/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.		PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
Bentonite	temporary screen	10/7/10	21								Very Severely Weathered BEDROCK - as above, wet, no odor, no discoloration
			22								
			23								
			24								
			25	-		-					Very Severely Weathered BEDROCK - as above, no odor, no discoloration
			26								
			27								
			28								
			29								
			30								Very Severely Weathered BEDROCK - as above, no odor, no discoloration
			31								
			32								Bottom of boring 30' bgs Temporary well point completed to 20-30' bgs (10/6/10); Sample TW-106 collected 10/7/10 @ 13:00 hrs Boring abandoned 10/7/10)
			33								
			34								
			35								
			36								
			37								
			38								
			39								
			40								

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BORING LOG **SB-1**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/7/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.	Time	PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
			0								
Bentonite	asphalt		1								Asphalt
			2								SILT (ML) - red-orange, moist, firm, no odor, no discoloration
			3								
			4								
			5	201	12:45	0.0					Silt (ML) - as above, no odor, no discoloration
			6								
			7								Bottom of boring 5' bgs Groundwater not encountered Boring abandoned 10/7/10)
			8								
			9								
			10								
			11								
			12								
			13								
			14								
			15								
			16								
			17								
			18								
			19								
			20								

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BORING LOG **SB-2**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/7/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.	Time	PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
			0								
Bentonite	asphalt		1				↑		↑		Asphalt
			2								SILT (ML) - red-orange, moist, firm, no odor, no discoloration
			3								
			4								
			5	202	13:15	0.4	↓		↓		Silt (ML) - as above, no odor, no discoloration
			6								
			7								Bottom of boring 5' bgs Groundwater not encountered Boring abandoned 10/7/10)
			8								
			9								
			10								
			11								
			12								
			13								
			14								
			15								
			16								
			17								
			18								
			19								
			20								

RSV ENGINEERING, INC.
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BORING LOG **SB-3**

Project Number: 0010736.00 Phase 002	**Boring Start:** 10/7/10
Project Name: General Steel Drum Facility	**Boring End:** 10/7/10
Address: 4500 South Boulevard	**Contractor:** McCall Brothers, Inc.
Charlotte, North Carolina	**Equipment:** GeoProbe™
RSV Logger: Paula Richardson	**Sampling Method(s):** Continuous Core

Log Detail

Abandonment	Temp. Construction	Ground Water	Depth	Sample No.	Time	PID	Recovery	Impact	Core Interval	Graphic Log	Soil Description
			0								
Bentonite	asphalt		1								Asphalt
			2								SILT (ML) - red-orange, moist, firm, no odor, no discoloration
			3								
			4								
			5	-		0.6					Silt (ML) - as above, no odor, no discoloration
			6								
			7	203	13:30	0.0					Silt (ML) - as above, no odor, no discoloration
			8								
			9								
			10	-		1.3					Silt (ML) - as above, no odor, no discoloration
			11								Bottom of boring 10' bgs Groundwater not encountered Boring abandoned 10/7/10)
			12								
			13								
			14								
			15								
			16								
			17								
			18								
			19								
			20								

Appendix C

Laboratory Reports and Chain of Custody Documentation – Soil Samples

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1436296

Section A Required Client Information:

Company: Saga Environmental Eng.
Address: 146 E. Milwaukee St.
Jefferson, WI 53549
Email To: prichardson@rsvjefferson
Phone: 920-674-3411 Fax:
Requested Due Date/TAT: 5 day

Section B Required Project Information:

Report To: Paula Richardson
Copy To:
Purchase Order No.: 10-736
Project Name: General Steel Drum
Project Number: 10-736

Section C Invoice Information:

Attention:
Company Name: Same
Address:
Pace Quote Reference:
Pace Project Manager: Erin Waters
Pace Profile #: 3930-1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Oil + Grease 9071B	GRO	DRO	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SB-201	SL	G	10/7/10	12:45				5	X			X			X			X	X	X		001
2	SB-202	SL	G	10/7/10	1:15				5	X						X			X	X	X		002
3	SB-203	SL	G	10/7/10	1:30				4	X						X				X	X		003
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

1277322

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Jan Tri Saga	10/7/10	15:10		10/7/10	15:10	6.9 yes no yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt

Pace Analytical

Client Name: Sage Env. Project # 9279322

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun : T809 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract _____0_____C

Corrected Cooler Temp.: 6.0 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and Initials of person examining contents: mm 10/7/10

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

CURF Review: QW **Date:** 10/7/10 **SRF Review:** QW **Date:** 10/7/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 14, 2010

Ms. Paula Richardson
RSV-Jefferson
146 E. Milwaukee St.
Jefferson, WI 53549

RE: Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

Dear Ms. Richardson:
Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Erin Waters

erin.waters@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031

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(704)875-9092

SAMPLE ANALYTE COUNT

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9279322001	**SB-201**	EPA 8015 Modified	RES	2	PASI-C
		9071B	EAJ	1	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
9279322002	**SB-202**	EPA 8015 Modified	RES	2	PASI-C
		9071B	EAJ	1	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
9279322003	**SB-203**	EPA 8015 Modified	RES	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

Sample: SB-201 **Lab ID: 9279322001** Collected: 10/07/10 12:45 Received: 10/07/10 15:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.8	1	10/11/10 10:45	10/11/10 18:10	68334-30-5	
n-Pentacosane (S)	68	%	41-119	1	10/11/10 10:45	10/11/10 18:10	629-99-2	
9071 Oil and Grease	Analytical Method: 9071B Preparation Method: 9071B							
Oil and Grease	ND	mg/kg	96.3	1	10/12/10 08:15	10/12/10 10:04		
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.7	1	10/14/10 11:07	10/14/10 12:58	8006-61-9	
4-Bromofluorobenzene (S)	143	%	70-167	1	10/14/10 11:07	10/14/10 12:58	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**27.3**	%	0.10	1		10/08/10 13:43		

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

Sample: SB-202 **Lab ID: 9279322002** Collected: 10/07/10 13:15 Received: 10/07/10 15:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.1	1	10/11/10 10:45	10/11/10 18:45	68334-30-5	
n-Pentacosane (S)	53	%	41-119	1	10/11/10 10:45	10/11/10 18:45	629-99-2	
9071 Oil and Grease	Analytical Method: 9071B Preparation Method: 9071B							
Oil and Grease	ND	mg/kg	84.6	1	10/12/10 08:16	10/12/10 10:04		
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	7.4	1	10/14/10 11:07	10/14/10 14:20	8006-61-9	
4-Bromofluorobenzene (S)	129	%	70-167	1	10/14/10 11:07	10/14/10 14:20	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.2**	%	0.10	1		10/08/10 13:43		

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

Sample: SB-203 **Lab ID: 9279322003** Collected: 10/07/10 13:30 Received: 10/07/10 15:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.5	1	10/11/10 10:45	10/11/10 18:45	68334-30-5	
n-Pentacosane (S)	48	%	41-119	1	10/11/10 10:45	10/11/10 18:45	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	7.0	1	10/14/10 11:07	10/14/10 14:44	8006-61-9	
4-Bromofluorobenzene (S)	144	%	70-167	1	10/14/10 11:07	10/14/10 14:44	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.6**	%	0.10	1		10/08/10 13:44		

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

QC Batch: OEXT/11444 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV
Associated Lab Samples: 9279322001, 9279322002, 9279322003

METHOD BLANK: 510066 Matrix: Solid
Associated Lab Samples: 9279322001, 9279322002, 9279322003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	5.0	10/11/10 13:43	
n-Pentacosane (S)	%	109	41-119	10/11/10 13:43	

LABORATORY CONTROL SAMPLE: 510067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	167	123	74	49-113	
n-Pentacosane (S)	%			86	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 510068 510069

Parameter	Units	9279386002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	ND	191	191	141	81.5	72	41	10-146	53	M0,R1
n-Pentacosane (S)	%						82	49	41-119		

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

QC Batch: GCSV/8516
QC Batch Method: 9071B
Analysis Method: 9071B
Analysis Description: 9071 Oil and Grease
Associated Lab Samples: 9279322001, 9279322002

METHOD BLANK: 510292 Matrix: Solid
Associated Lab Samples: 9279322001, 9279322002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/kg	ND	70.0	10/12/10 10:04	

LABORATORY CONTROL SAMPLE: 510293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/kg	1330	1230	92	78-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 510294 510295

Parameter	Units	9279209003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Oil and Grease	mg/kg	101	1550	1550	1570	1560	95	93	78-114	1	

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

QC Batch: GCV/4411 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 9279322001, 9279322002, 9279322003

METHOD BLANK: 511912 Matrix: Solid
Associated Lab Samples: 9279322001, 9279322002, 9279322003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	10/14/10 12:34	
4-Bromofluorobenzene (S)	%	105	70-167	10/14/10 12:34	

LABORATORY CONTROL SAMPLE: 511913

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	25	25.1	100	70-165	
4-Bromofluorobenzene (S)	%			89	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 511914 511915

Parameter	Units	9279322001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Gasoline Range Organics	mg/kg	ND	28.1	28.1	34.0	31.1	121	111	47-187	9	
4-Bromofluorobenzene (S)	%						119	137	70-167		

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

QC Batch: PMST/3494 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 9279322001, 9279322002, 9279322003

SAMPLE DUPLICATE: 509180

Parameter	Units	9279284001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	21.0	20.1	4	

SAMPLE DUPLICATE: 509181

Parameter	Units	9279226013 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	26.6	26.4	1	

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QUALIFIERS

Project: GERERAL STEEL DRUM 10-736
Pace Project No.: 9279322

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
R1	RPD value was outside control limits.

Appendix D

Laboratory Reports and Chain of Custody Documentation – Groundwater Samples

Pace Analytical®
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1436282

Section A Required Client Information:

Company: Saga Environmental
Address: 146 E. Milwaukee St.
Jefferson, WI 53549
Email To: prichardson@rsv-jefferson.com
Phone: 920-674-3441 Fax:
Requested Due Date/TAT: 5 day

Section B Required Project Information:

Report To: Paula Richardson
Copy To:
Purchase Order No.: 10-739
Project Name: General Steel Drum
Project Number: 10-739

Section C Invoice Information:

Attention:
Company Name: Same
Address:
Pace Quote Reference: Erin Waters
Pace Project Manager: ~~Jeff Rumsey~~
Pace Profile #: 3936-1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Analysis Test: VOCs 624/608	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~TW-101~~ QAR	WT	G	~~10/7/10~~					3				X					Y	X		001
2	TW-102			10/7/10	11a				3				X						X		002
3	TW-103			10/7/10	11:30				3				X						X		003
4	TW-104			10/6/10	2pm				3				X						X		004
5	TW-105			10/7/10	12:30				3				X						X		005
6	TW-106			10/7/10	1:60p				2				X						X		006
7	~~FW-107~~ PWW-001	WT	G		10:30a				2				X						X		007
8	Trip Blank												X								
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Pam Tri Saga Env.	10/7/10	17		10/7/10	15:19	C.O yes / no / yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt

Pace Analytical

Client Name: Scyr Env. Project # 92279321

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun : T809 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract _____0_____C

Corrected Cooler Temp.: 6.0 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and Initials of person examining contents: mm - 10/7/10

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☒No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5. date for PWW = ?, date not
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6. on COC or bottles
Rush Turn Around Time Requested:	☒Yes ☐No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☒Yes ☐No ☐N/A	15. (Nel - TW 104
Trip Blank Present:	☒Yes ☐No ☐N/A	16. no date/time - wt - HCl
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Paula Richardson Date/Time: 10/7/10 16:00

Comments/ Resolution: PWW-001 was sampled on 10/7.

10/7

PCURF Review: EW Date: 10/7/10 **SRF Review:** EW Date: 10/7/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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October 15, 2010

Ms. Paula Richardson
RSV-Jefferson
146 E. Milwaukee St.
Jefferson, WI 53549

RE: Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Dear Ms. Richardson:
Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

Report revised on October 15, 2010, to include method detection limits (MDL) and J-Flags.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Erin Waters

erin.waters@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031

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SAMPLE SUMMARY

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9279321001	**TW-102**	Water	10/07/10 11:00	10/07/10 15:10
9279321002	**TW-103**	Water	10/07/10 11:30	10/07/10 15:10
9279321003	**TW-104**	Water	10/06/10 14:00	10/07/10 15:10
9279321004	**TW-105**	Water	10/07/10 12:30	10/07/10 15:10
9279321005	**TW-106**	Water	10/07/10 13:00	10/07/10 15:10
9279321006	**PWW-001**	Water	10/07/10 10:30	10/07/10 15:10
9279321007	**TRIP BLANK**	Water	10/07/10 00:00	10/07/10 15:10

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SAMPLE ANALYTE COUNT

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9279321001	**TW-102**	EPA 8260	MCK	63	PASI-C
9279321002	**TW-103**	EPA 8260	MCK	63	PASI-C
9279321003	**TW-104**	EPA 8260	MCK	63	PASI-C
9279321004	**TW-105**	EPA 8260	MCK	63	PASI-C
9279321005	**TW-106**	EPA 8260	MCK	63	PASI-C
9279321006	**PWW-001**	EPA 8260	MCK	63	PASI-C
9279321007	**TRIP BLANK**	EPA 8260	MCK	63	PASI-C

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-102 **Lab ID: 9279321001** Collected: 10/07/10 11:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		10/13/10 14:14	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		10/13/10 14:14	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.30	1		10/13/10 14:14	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.17	1		10/13/10 14:14	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/13/10 14:14	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		10/13/10 14:14	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		10/13/10 14:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		10/13/10 14:14	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/13/10 14:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/10 14:14	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		10/13/10 14:14	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		10/13/10 14:14	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/13/10 14:14	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.35	1		10/13/10 14:14	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.31	1		10/13/10 14:14	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5	1		10/13/10 14:14	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		10/13/10 14:14	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/13/10 14:14	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		10/13/10 14:14	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		10/13/10 14:14	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		10/13/10 14:14	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 14:14	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		10/13/10 14:14	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		10/13/10 14:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/13/10 14:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		10/13/10 14:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		10/13/10 14:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		10/13/10 14:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/13/10 14:14	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		10/13/10 14:14	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.13	1		10/13/10 14:14	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.49	1		10/13/10 14:14	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/10 14:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/13/10 14:14	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		10/13/10 14:14	108-20-3	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/13/10 14:14	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.71	1		10/13/10 14:14	87-68-3	
2-Hexanone	ND	ug/L	5.0	0.46	1		10/13/10 14:14	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	0.31	1		10/13/10 14:14	99-87-6	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/13/10 14:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		10/13/10 14:14	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		10/13/10 14:14	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		10/13/10 14:14	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		10/13/10 14:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		10/13/10 14:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		10/13/10 14:14	79-34-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-102 **Lab ID: 9279321001** Collected: 10/07/10 11:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/13/10 14:14	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/13/10 14:14	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 14:14	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		10/13/10 14:14	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/13/10 14:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/13/10 14:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/13/10 14:14	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/13/10 14:14	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/13/10 14:14	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		10/13/10 14:14	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/13/10 14:14	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/13/10 14:14	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		10/13/10 14:14	95-47-6	
4-Bromofluorobenzene (S)	89	%	70-130		1		10/13/10 14:14	460-00-4	
Dibromofluoromethane (S)	91	%	70-130		1		10/13/10 14:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		10/13/10 14:14	17060-07-0	
Toluene-d8 (S)	91	%	70-130		1		10/13/10 14:14	2037-26-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-103 **Lab ID: 9279321002** Collected: 10/07/10 11:30 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**2.9J**	ug/L	25.0	2.2	1		10/13/10 14:40	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		10/13/10 14:40	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.30	1		10/13/10 14:40	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.17	1		10/13/10 14:40	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/13/10 14:40	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		10/13/10 14:40	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		10/13/10 14:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		10/13/10 14:40	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/13/10 14:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/10 14:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		10/13/10 14:40	75-00-3	
Chloroform	**0.82J**	ug/L	1.0	0.14	1		10/13/10 14:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/13/10 14:40	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.35	1		10/13/10 14:40	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.31	1		10/13/10 14:40	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5	1		10/13/10 14:40	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		10/13/10 14:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/13/10 14:40	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		10/13/10 14:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		10/13/10 14:40	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		10/13/10 14:40	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 14:40	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		10/13/10 14:40	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		10/13/10 14:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/13/10 14:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		10/13/10 14:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		10/13/10 14:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		10/13/10 14:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/13/10 14:40	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		10/13/10 14:40	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.13	1		10/13/10 14:40	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.49	1		10/13/10 14:40	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/10 14:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/13/10 14:40	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		10/13/10 14:40	108-20-3	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/13/10 14:40	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.71	1		10/13/10 14:40	87-68-3	
2-Hexanone	ND	ug/L	5.0	0.46	1		10/13/10 14:40	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	0.31	1		10/13/10 14:40	99-87-6	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/13/10 14:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		10/13/10 14:40	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		10/13/10 14:40	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		10/13/10 14:40	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		10/13/10 14:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		10/13/10 14:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		10/13/10 14:40	79-34-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-103 **Lab ID: 9279321002** Collected: 10/07/10 11:30 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/13/10 14:40	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/13/10 14:40	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 14:40	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		10/13/10 14:40	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/13/10 14:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/13/10 14:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/13/10 14:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/13/10 14:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/13/10 14:40	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		10/13/10 14:40	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/13/10 14:40	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/13/10 14:40	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		10/13/10 14:40	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		10/13/10 14:40	460-00-4	
Dibromofluoromethane (S)	91	%	70-130		1		10/13/10 14:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		10/13/10 14:40	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		10/13/10 14:40	2037-26-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-104 **Lab ID: 9279321003** Collected: 10/06/10 14:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**3.4J**	ug/L	25.0	2.2	1		10/13/10 15:05	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		10/13/10 15:05	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:05	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.17	1		10/13/10 15:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/13/10 15:05	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		10/13/10 15:05	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		10/13/10 15:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		10/13/10 15:05	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/13/10 15:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/10 15:05	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		10/13/10 15:05	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		10/13/10 15:05	67-66-3	
Chloromethane	**0.16J**	ug/L	1.0	0.11	1		10/13/10 15:05	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.35	1		10/13/10 15:05	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.31	1		10/13/10 15:05	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5	1		10/13/10 15:05	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		10/13/10 15:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/13/10 15:05	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		10/13/10 15:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		10/13/10 15:05	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 15:05	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		10/13/10 15:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		10/13/10 15:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/13/10 15:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		10/13/10 15:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		10/13/10 15:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		10/13/10 15:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/13/10 15:05	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		10/13/10 15:05	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.13	1		10/13/10 15:05	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.49	1		10/13/10 15:05	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/10 15:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/13/10 15:05	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		10/13/10 15:05	108-20-3	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:05	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.71	1		10/13/10 15:05	87-68-3	
2-Hexanone	ND	ug/L	5.0	0.46	1		10/13/10 15:05	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	0.31	1		10/13/10 15:05	99-87-6	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/13/10 15:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		10/13/10 15:05	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		10/13/10 15:05	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		10/13/10 15:05	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		10/13/10 15:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		10/13/10 15:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		10/13/10 15:05	79-34-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-104 **Lab ID: 9279321003** Collected: 10/06/10 14:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/13/10 15:05	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/13/10 15:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 15:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		10/13/10 15:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/13/10 15:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/13/10 15:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/13/10 15:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/13/10 15:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/13/10 15:05	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		10/13/10 15:05	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/13/10 15:05	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/13/10 15:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		10/13/10 15:05	95-47-6	
4-Bromofluorobenzene (S)	91	%	70-130		1		10/13/10 15:05	460-00-4	
Dibromofluoromethane (S)	89	%	70-130		1		10/13/10 15:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	70-130		1		10/13/10 15:05	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		10/13/10 15:05	2037-26-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-105 **Lab ID: 9279321004** Collected: 10/07/10 12:30 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**2.4J**	ug/L	25.0	2.2	1		10/13/10 15:31	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		10/13/10 15:31	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:31	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.17	1		10/13/10 15:31	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/13/10 15:31	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		10/13/10 15:31	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		10/13/10 15:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		10/13/10 15:31	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/13/10 15:31	56-23-5	
Chlorobenzene	**0.30J**	ug/L	1.0	0.23	1		10/13/10 15:31	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		10/13/10 15:31	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		10/13/10 15:31	67-66-3	
Chloromethane	**0.27J**	ug/L	1.0	0.11	1		10/13/10 15:31	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.35	1		10/13/10 15:31	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.31	1		10/13/10 15:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5	1		10/13/10 15:31	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		10/13/10 15:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/13/10 15:31	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		10/13/10 15:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		10/13/10 15:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 15:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		10/13/10 15:31	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		10/13/10 15:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/13/10 15:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		10/13/10 15:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		10/13/10 15:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		10/13/10 15:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/13/10 15:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		10/13/10 15:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.13	1		10/13/10 15:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.49	1		10/13/10 15:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/10 15:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/13/10 15:31	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		10/13/10 15:31	108-20-3	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.71	1		10/13/10 15:31	87-68-3	
2-Hexanone	ND	ug/L	5.0	0.46	1		10/13/10 15:31	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	0.31	1		10/13/10 15:31	99-87-6	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/13/10 15:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		10/13/10 15:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		10/13/10 15:31	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		10/13/10 15:31	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		10/13/10 15:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		10/13/10 15:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		10/13/10 15:31	79-34-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-105 **Lab ID: 9279321004** Collected: 10/07/10 12:30 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/13/10 15:31	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/13/10 15:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 15:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		10/13/10 15:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/13/10 15:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/13/10 15:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/13/10 15:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/13/10 15:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/13/10 15:31	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		10/13/10 15:31	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/13/10 15:31	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/13/10 15:31	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		10/13/10 15:31	95-47-6	
4-Bromofluorobenzene (S)	91	%	70-130		1		10/13/10 15:31	460-00-4	
Dibromofluoromethane (S)	94	%	70-130		1		10/13/10 15:31	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	70-130		1		10/13/10 15:31	17060-07-0	
Toluene-d8 (S)	91	%	70-130		1		10/13/10 15:31	2037-26-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-106 **Lab ID: 9279321005** Collected: 10/07/10 13:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**2.8J**	ug/L	25.0	2.2	1		10/13/10 15:56	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		10/13/10 15:56	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:56	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.17	1		10/13/10 15:56	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/13/10 15:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		10/13/10 15:56	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		10/13/10 15:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		10/13/10 15:56	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/13/10 15:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/10 15:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		10/13/10 15:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		10/13/10 15:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/13/10 15:56	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.35	1		10/13/10 15:56	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.31	1		10/13/10 15:56	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5	1		10/13/10 15:56	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		10/13/10 15:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/13/10 15:56	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		10/13/10 15:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:56	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		10/13/10 15:56	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 15:56	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		10/13/10 15:56	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		10/13/10 15:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/13/10 15:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		10/13/10 15:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		10/13/10 15:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		10/13/10 15:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/13/10 15:56	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		10/13/10 15:56	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.13	1		10/13/10 15:56	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.49	1		10/13/10 15:56	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/10 15:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/13/10 15:56	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		10/13/10 15:56	108-20-3	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/13/10 15:56	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.71	1		10/13/10 15:56	87-68-3	
2-Hexanone	ND	ug/L	5.0	0.46	1		10/13/10 15:56	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	0.31	1		10/13/10 15:56	99-87-6	
Methylene Chloride	**2.2**	ug/L	2.0	0.97	1		10/13/10 15:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		10/13/10 15:56	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		10/13/10 15:56	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		10/13/10 15:56	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		10/13/10 15:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		10/13/10 15:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		10/13/10 15:56	79-34-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TW-106 **Lab ID: 9279321005** Collected: 10/07/10 13:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Tetrachloroethene	**1.7**	ug/L	1.0	0.46	1		10/13/10 15:56	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/13/10 15:56	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 15:56	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		10/13/10 15:56	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/13/10 15:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/13/10 15:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/13/10 15:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/13/10 15:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/13/10 15:56	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		10/13/10 15:56	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/13/10 15:56	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/13/10 15:56	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		10/13/10 15:56	95-47-6	
4-Bromofluorobenzene (S)	93	%	70-130		1		10/13/10 15:56	460-00-4	
Dibromofluoromethane (S)	92	%	70-130		1		10/13/10 15:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		10/13/10 15:56	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		10/13/10 15:56	2037-26-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: PWW-001 **Lab ID: 9279321006** Collected: 10/07/10 10:30 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		10/13/10 16:22	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		10/13/10 16:22	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.30	1		10/13/10 16:22	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.17	1		10/13/10 16:22	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/13/10 16:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		10/13/10 16:22	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		10/13/10 16:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		10/13/10 16:22	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/13/10 16:22	56-23-5	
Chlorobenzene	**0.75J**	ug/L	1.0	0.23	1		10/13/10 16:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		10/13/10 16:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		10/13/10 16:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/13/10 16:22	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.35	1		10/13/10 16:22	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.31	1		10/13/10 16:22	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5	1		10/13/10 16:22	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		10/13/10 16:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/13/10 16:22	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		10/13/10 16:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		10/13/10 16:22	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		10/13/10 16:22	541-73-1	
1,4-Dichlorobenzene	**0.60J**	ug/L	1.0	0.33	1		10/13/10 16:22	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		10/13/10 16:22	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		10/13/10 16:22	75-34-3	
1,2-Dichloroethane	**0.17J**	ug/L	1.0	0.12	1		10/13/10 16:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		10/13/10 16:22	75-35-4	
cis-1,2-Dichloroethene	**0.47J**	ug/L	1.0	0.19	1		10/13/10 16:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		10/13/10 16:22	156-60-5	
1,2-Dichloropropane	**0.44J**	ug/L	1.0	0.27	1		10/13/10 16:22	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		10/13/10 16:22	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.13	1		10/13/10 16:22	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.49	1		10/13/10 16:22	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/10 16:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/13/10 16:22	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		10/13/10 16:22	108-20-3	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/13/10 16:22	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.71	1		10/13/10 16:22	87-68-3	
2-Hexanone	ND	ug/L	5.0	0.46	1		10/13/10 16:22	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	0.31	1		10/13/10 16:22	99-87-6	
Methylene Chloride	ND	ug/L	2.0	0.97	1		10/13/10 16:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		10/13/10 16:22	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		10/13/10 16:22	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		10/13/10 16:22	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		10/13/10 16:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		10/13/10 16:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		10/13/10 16:22	79-34-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: PWW-001 **Lab ID: 9279321006** Collected: 10/07/10 10:30 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/13/10 16:22	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/13/10 16:22	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 16:22	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		10/13/10 16:22	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/13/10 16:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/13/10 16:22	79-00-5	
Trichloroethene	**0.80J**	ug/L	1.0	0.47	1		10/13/10 16:22	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/13/10 16:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/13/10 16:22	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		10/13/10 16:22	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/13/10 16:22	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/13/10 16:22	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		10/13/10 16:22	95-47-6	
4-Bromofluorobenzene (S)	91	%	70-130		1		10/13/10 16:22	460-00-4	
Dibromofluoromethane (S)	88	%	70-130		1		10/13/10 16:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		10/13/10 16:22	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		10/13/10 16:22	2037-26-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TRIP BLANK **Lab ID: 9279321007** Collected: 10/07/10 00:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**5.0J**	ug/L	25.0	2.2	1		10/13/10 13:49	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		10/13/10 13:49	71-43-2	
Bromobenzene	ND	ug/L	1.0	0.30	1		10/13/10 13:49	108-86-1	
Bromochloromethane	ND	ug/L	1.0	0.17	1		10/13/10 13:49	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		10/13/10 13:49	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		10/13/10 13:49	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		10/13/10 13:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		10/13/10 13:49	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		10/13/10 13:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/10 13:49	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		10/13/10 13:49	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		10/13/10 13:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		10/13/10 13:49	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	0.35	1		10/13/10 13:49	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	0.31	1		10/13/10 13:49	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5	1		10/13/10 13:49	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		10/13/10 13:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		10/13/10 13:49	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		10/13/10 13:49	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		10/13/10 13:49	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		10/13/10 13:49	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 13:49	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		10/13/10 13:49	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		10/13/10 13:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		10/13/10 13:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		10/13/10 13:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		10/13/10 13:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		10/13/10 13:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		10/13/10 13:49	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		10/13/10 13:49	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	0.13	1		10/13/10 13:49	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	0.49	1		10/13/10 13:49	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/10 13:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		10/13/10 13:49	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		10/13/10 13:49	108-20-3	
Ethylbenzene	ND	ug/L	1.0	0.30	1		10/13/10 13:49	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	0.71	1		10/13/10 13:49	87-68-3	
2-Hexanone	ND	ug/L	5.0	0.46	1		10/13/10 13:49	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	0.31	1		10/13/10 13:49	99-87-6	
Methylene Chloride	**0.99J**	ug/L	2.0	0.97	1		10/13/10 13:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		10/13/10 13:49	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		10/13/10 13:49	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		10/13/10 13:49	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		10/13/10 13:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		10/13/10 13:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		10/13/10 13:49	79-34-5	

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ANALYTICAL RESULTS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

Sample: TRIP BLANK **Lab ID: 9279321007** Collected: 10/07/10 00:00 Received: 10/07/10 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Tetrachloroethene	ND	ug/L	1.0	0.46	1		10/13/10 13:49	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		10/13/10 13:49	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		10/13/10 13:49	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		10/13/10 13:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		10/13/10 13:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		10/13/10 13:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		10/13/10 13:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		10/13/10 13:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		10/13/10 13:49	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		10/13/10 13:49	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		10/13/10 13:49	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		10/13/10 13:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		10/13/10 13:49	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		10/13/10 13:49	460-00-4	
Dibromofluoromethane (S)	91	%	70-130		1		10/13/10 13:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%	70-130		1		10/13/10 13:49	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		10/13/10 13:49	2037-26-5	

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

QC Batch: MSV/12624 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9279321001, 9279321002, 9279321003, 9279321004, 9279321005, 9279321006, 9279321007

METHOD BLANK: 510996 Matrix: Water
Associated Lab Samples: 9279321001, 9279321002, 9279321003, 9279321004, 9279321005, 9279321006, 9279321007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/13/10 10:44	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/13/10 10:44	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/13/10 10:44	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/13/10 10:44	
1,1-Dichloroethane	ug/L	ND	1.0	10/13/10 10:44	
1,1-Dichloroethene	ug/L	ND	1.0	10/13/10 10:44	
1,1-Dichloropropene	ug/L	ND	1.0	10/13/10 10:44	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	10/13/10 10:44	
1,2,3-Trichloropropane	ug/L	ND	1.0	10/13/10 10:44	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	10/13/10 10:44	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	10/13/10 10:44	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/13/10 10:44	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/13/10 10:44	
1,2-Dichloroethane	ug/L	ND	1.0	10/13/10 10:44	
1,2-Dichloropropane	ug/L	ND	1.0	10/13/10 10:44	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/13/10 10:44	
1,3-Dichloropropane	ug/L	ND	1.0	10/13/10 10:44	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/13/10 10:44	
2,2-Dichloropropane	ug/L	ND	1.0	10/13/10 10:44	
2-Butanone (MEK)	ug/L	ND	5.0	10/13/10 10:44	
2-Chlorotoluene	ug/L	ND	1.0	10/13/10 10:44	
2-Hexanone	ug/L	ND	5.0	10/13/10 10:44	
4-Chlorotoluene	ug/L	ND	1.0	10/13/10 10:44	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	10/13/10 10:44	
Acetone	ug/L	ND	25.0	10/13/10 10:44	
Benzene	ug/L	ND	1.0	10/13/10 10:44	
Bromobenzene	ug/L	ND	1.0	10/13/10 10:44	
Bromochloromethane	ug/L	ND	1.0	10/13/10 10:44	
Bromodichloromethane	ug/L	ND	1.0	10/13/10 10:44	
Bromoform	ug/L	ND	1.0	10/13/10 10:44	
Bromomethane	ug/L	ND	2.0	10/13/10 10:44	
Carbon tetrachloride	ug/L	ND	1.0	10/13/10 10:44	
Chlorobenzene	ug/L	ND	1.0	10/13/10 10:44	
Chloroethane	ug/L	ND	1.0	10/13/10 10:44	
Chloroform	ug/L	ND	1.0	10/13/10 10:44	
Chloromethane	ug/L	ND	1.0	10/13/10 10:44	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/13/10 10:44	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/13/10 10:44	
Dibromochloromethane	ug/L	ND	1.0	10/13/10 10:44	
Dibromomethane	ug/L	ND	1.0	10/13/10 10:44	
Dichlorodifluoromethane	ug/L	ND	1.0	10/13/10 10:44	
Diisopropyl ether	ug/L	ND	1.0	10/13/10 10:44	
Ethylbenzene	ug/L	ND	1.0	10/13/10 10:44	

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

METHOD BLANK: 510996 Matrix: Water

Associated Lab Samples: 9279321001, 9279321002, 9279321003, 9279321004, 9279321005, 9279321006, 9279321007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	1.0	10/13/10 10:44	
m&p-Xylene	ug/L	ND	2.0	10/13/10 10:44	
Methyl-tert-butyl ether	ug/L	ND	1.0	10/13/10 10:44	
Methylene Chloride	ug/L	1.5J	2.0	10/13/10 10:44	
Naphthalene	ug/L	ND	1.0	10/13/10 10:44	
o-Xylene	ug/L	ND	1.0	10/13/10 10:44	
p-Isopropyltoluene	ug/L	ND	1.0	10/13/10 10:44	
Styrene	ug/L	ND	1.0	10/13/10 10:44	
Tetrachloroethene	ug/L	ND	1.0	10/13/10 10:44	
Toluene	ug/L	ND	1.0	10/13/10 10:44	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/13/10 10:44	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/13/10 10:44	
Trichloroethene	ug/L	ND	1.0	10/13/10 10:44	
Trichlorofluoromethane	ug/L	ND	1.0	10/13/10 10:44	
Vinyl acetate	ug/L	ND	2.0	10/13/10 10:44	
Vinyl chloride	ug/L	ND	1.0	10/13/10 10:44	
1,2-Dichloroethane-d4 (S)	%	92	70-130	10/13/10 10:44	
4-Bromofluorobenzene (S)	%	93	70-130	10/13/10 10:44	
Dibromofluoromethane (S)	%	95	70-130	10/13/10 10:44	
Toluene-d8 (S)	%	93	70-130	10/13/10 10:44	

LABORATORY CONTROL SAMPLE: 510997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.6	99	70-130	
1,1,1-Trichloroethane	ug/L	50	45.1	90	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	45.4	91	70-130	
1,1,2-Trichloroethane	ug/L	50	41.4	83	70-130	
1,1-Dichloroethane	ug/L	50	47.1	94	70-130	
1,1-Dichloroethene	ug/L	50	47.1	94	70-132	
1,1-Dichloropropene	ug/L	50	42.2	84	70-130	
1,2,3-Trichlorobenzene	ug/L	50	49.8	100	70-135	
1,2,3-Trichloropropane	ug/L	50	47.4	95	70-130	
1,2,4-Trichlorobenzene	ug/L	50	48.6	97	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	48.9	98	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	48.0	96	70-130	
1,2-Dichlorobenzene	ug/L	50	48.1	96	70-130	
1,2-Dichloroethane	ug/L	50	46.5	93	70-130	
1,2-Dichloropropane	ug/L	50	38.1	76	70-130	
1,3-Dichlorobenzene	ug/L	50	46.0	92	70-130	
1,3-Dichloropropane	ug/L	50	47.5	95	70-130	
1,4-Dichlorobenzene	ug/L	50	48.2	96	70-130	
2,2-Dichloropropane	ug/L	50	38.1	76	58-145	
2-Butanone (MEK)	ug/L	100	83.9	84	70-145	
2-Chlorotoluene	ug/L	50	47.5	95	70-130	

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

LABORATORY CONTROL SAMPLE: 510997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Hexanone	ug/L	100	98.3	98	70-144	
4-Chlorotoluene	ug/L	50	50.6	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	84.4	84	70-140	
Acetone	ug/L	100	77.9	78	50-175	
Benzene	ug/L	50	50.0	100	70-130	
Bromobenzene	ug/L	50	44.3	89	70-130	
Bromochloromethane	ug/L	50	45.2	90	70-130	
Bromodichloromethane	ug/L	50	40.6	81	70-130	
Bromoform	ug/L	50	45.9	92	70-130	
Bromomethane	ug/L	50	45.3	91	54-130	
Carbon tetrachloride	ug/L	50	45.8	92	70-132	
Chlorobenzene	ug/L	50	49.4	99	70-130	
Chloroethane	ug/L	50	44.2	88	64-134	
Chloroform	ug/L	50	44.8	90	70-130	
Chloromethane	ug/L	50	39.9	80	64-130	
cis-1,2-Dichloroethene	ug/L	50	43.7	87	70-131	
cis-1,3-Dichloropropene	ug/L	50	39.9	80	70-130	
Dibromochloromethane	ug/L	50	47.0	94	70-130	
Dibromomethane	ug/L	50	43.7	87	70-131	
Dichlorodifluoromethane	ug/L	50	38.5	77	56-130	
Diisopropyl ether	ug/L	50	46.9	94	70-130	
Ethylbenzene	ug/L	50	52.5	105	70-130	
Hexachloro-1,3-butadiene	ug/L	50	49.1	98	70-130	
m&p-Xylene	ug/L	100	103	103	70-130	
Methyl-tert-butyl ether	ug/L	50	44.1	88	70-130	
Methylene Chloride	ug/L	50	39.9	80	63-130	
Naphthalene	ug/L	50	55.1	110	70-138	
o-Xylene	ug/L	50	51.2	102	70-130	
p-Isopropyltoluene	ug/L	50	50.0	100	70-130	
Styrene	ug/L	50	47.6	95	70-130	
Tetrachloroethene	ug/L	50	54.5	109	70-130	
Toluene	ug/L	50	44.4	89	70-130	
trans-1,2-Dichloroethene	ug/L	50	44.6	89	70-130	
trans-1,3-Dichloropropene	ug/L	50	39.8	80	70-132	
Trichloroethene	ug/L	50	46.1	92	70-130	
Trichlorofluoromethane	ug/L	50	49.3	99	62-133	
Vinyl acetate	ug/L	100	90.7	91	66-157	
Vinyl chloride	ug/L	50	42.1	84	69-130	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			91	70-130	
Toluene-d8 (S)	%			92	70-130	

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QUALITY CONTROL DATA

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 510998 510999

Parameter	Units	9279353012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L				50.3	51.9				3	30	
Benzene	ug/L	3.0	50	50	52.1	53.3	98	101	70-148	2	30	
Chlorobenzene	ug/L	ND	50	50	53.4	54.5	107	109	70-146	2	30	
Toluene	ug/L	ND	50	50	50.9	50.7	102	101	70-155	0	30	
Trichloroethene	ug/L				48.1	49.7				3	30	
1,2-Dichloroethane-d4 (S)	%						90	89	70-130			
4-Bromofluorobenzene (S)	%						91	97	70-130			
Dibromofluoromethane (S)	%						90	86	70-130			
Toluene-d8 (S)	%						90	89	70-130			

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QUALIFIERS

Project: GERERAL STEEL DRUM 10-739
Pace Project No.: 9279321

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte